

SURVIVAL **UNCENSORED**

by Olie Fischer

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Mental Defense

A very large part of this course is about collecting, stockpiling, and hoarding items like food, water, and necessary equipment. After you collect it, we give you strategies, tips, and methods to organize and use them. These are all vitally necessary to you and your family survival, but it doesn't matter how many of these things you have or how well you can use them if you don't use something we all have from the day we are born.

Any idea what that might be?

The most important thing for survival doesn't cost you a dime. It is your mind. If you don't prepare your mind for survival, chances are you simply will not survive. Your entire family will be depending on you, so you need to learn to make your mind resilient because their survival is up to you. Make no mistake, this part of the courses when you need to do some work. It's much harder than buying a bunch of stuff and checking things off on the checklist. When it comes to your mind and how you think, measuring and evaluating progress is fuzzier.

Controlling your mind under stress means controlling your reactions to any and all of them events and scenarios described in this course. Mental resiliency will benefit you in your day to day life, but it is lifesaving when it comes to events like disasters, economic collapse, and the breakdown of society.

Let's get started with preparing your mind for the unthinkable.

Key to Survival Is Your Mind

Do you watch the news? Some Americans still do, or at least try to keep up with the news of the day on their smartphone. Anyway, Europe is a mess economically and when it comes to unrest. American media doesn't cover it very thoroughly but if you take the time to visit the international news sites, it's a real eye opener. Okay I hear you. What's that got to do with you? It's a look in the crystal ball for what is coming here.

Pay attention to the European news for a few days. If the idea of that chaos, unrest, and violence happening there in your town, threatening your own family, doesn't scare you, then you might as well stop reading now. It's a wake up call for you to get your plans for survival together and fast. We have our own economic problems in the US. Truthfully, we are not any better off than the Europeans.

Don't kid yourself, we are not all that much better off than those countries in Europe. Our national debt is out of sight; our great-grandchildren will never pay it off.

Unemployment is still troublesome, which means millions are living just at the edge of poverty and starvation. What happens when that check stops coming?

It almost stopped in the summer of 2011, when we went 'bankrupt' because our leaders were too worried about the reputation of their political party to do what our country needed. That threat will continue to come back over and over for generations. So you can prepare for a lot of maybes...but there is a sure thing out there on the horizon, and your preparations now will save your family.

Many of you tend towards perfectionism and like to have everything under control and just so. A crisis will be a challenge for you with this mindset. The only control you will have when your personal world has gone mad is the preparations you have made. Otherwise, you will spend all your time reacting instead of acting, which will raise your stress level out of sight. Take the time now to practice letting go.

Spend a moment to think about how you deal with problems and situations. Just like the familiar example of the half-full



glass. You have the power, with your mind, to make problems look bigger and worse than they really are, or minimize them and make them seem less scary. Depending how you choose to think, one situation can become either. We are not talking about don't worry be happy. Serious issues are still going to be serious. Your responses are under your control however. Think of this as another practice drill. Just like learning to cook food without power, to survive on stored water, to adjust to the lack of creature comforts many think are their birthright. So practice how you think of situations, because the more control you have over your mind, the higher chance that your reaction will benefit you and your family instead of making the situation worse.

In a crisis, you are going to be faced with tough circumstances and hard decisions. Depending on what is going on, you may only have seconds to react. Situational awareness, your ability to lead/follow, your tendency to avoid injury, your ability to avoid delusional thoughts, and basically every other thought process you have change when you're under stress.

In every war in the last century, there were at least half as many cases of mental burnout as deaths. In several of the earlier wars, the number was equal because it was a simpler time. Society was far less violent and the majority of those men had never seen anything like what they saw during the war. These men were patriots but giving 110% eventually brings about burnout mentally as well as physically. Our boys coming home today are experiencing it as well; just watch the commercials on primetime TV sometime.

Any one of the crises we are preparing for with these guides will create the same burn out in you and your family if you allow it to happen. Mental resiliency is something you teach yourself. Very few are born with it. You certainly cannot afford to take some time off because you are stressed out during a crisis. Besides, if it is a worst case scenario, where would you go that isn't stressful?

America Is Sleep Deprived

Most of us are guilty of depriving ourselves of enough hours of sleep, whether intentional or not. Come on...fess up... You know you do. In fact, I'll bet you can't name five people that do not regularly shave hours off of their sleep time in order to get more things than during the day. The majority of Americans live their lives with imaginary clock ticking off in their head in a tiny voice saying there's not enough hours in the day.

If you want to perform at your peak, you cannot ignore their bodies need for sleep for an extended period time. In fact, research has proven you can live without food much longer than you can without sleep. Military research has proven that normal physical symptoms of stress can be magnified by sleep deprivation into disabling or life-threatening conditions.

We recommend that you begin to retrain your sleep patterns before you find yourself in a survival situation. We also recommend that you learn to nap.

Exercising Your Body Helps You Control Your Mind

Exercise affects all aspects of your life. Clear thinking, sleep, energy level, your success in dealing with stress, , martial skills, and even firearms accuracy. Check with your doctor before starting any exercise program. Even if you are older or disabled your doctor or therapist should be able to give you something that you can do to begin to build up your body's strength and get your heart rate up.

Something that happened during hurricane Sandy really bothered me. Many older folks in urban areas live in multistory buildings. Many of them may be in poor health and not the best physical shape. Without power in their residences, they were virtually marooned in their homes because they were unable to give up and down the stairs. This got me thinking. Plenty of Americans live sedentary lives, and they may not be in much better shape than these older folks. Plenty of them live in multistory buildings also. So I thought of a way they could gradually build up their stamina and endurance.

Instead of taking the elevator all the way to the top every day, you should get off on the floor below yours. Climb the stairs for that one floor until you can do it easily. Next, get off two floors below yours. You could even try it on the way down and get off before the main floor. It may take some time, but eventually you will be able to easily climb the steps all the way to your home.

Fear Is Okay

In a survival situation, everyone is going to be afraid. Accept it, there's no shame. In fact, fear produces adrenaline which you can harness to ramp up your performance. In the process, you will learn to master your fear.

There is nothing as powerful as aggression for overcoming fear. Fear and aggression come from the same place; the part of your brain that produces the fight or flight reflex. You can only do one or the other, not both.

Many people learn to master this as martial artists. Sometimes it's the only thing that stops you from freezing or shutting down. When physically exhausted in the middle of a fight or stressful situation, this state often can offer more strength. In this state, you will be far more intimidating. Which is more frightening an irritated black belt or a rabid, snarling, snapping Rottweiler? you will feel less pain, you become faster, stronger and more effective.

This state can induce fear in your assailant ending the fight faster and with less injury to both parties. It has the added benefit of any accomplices from joining in the fight.

3 P's

The "3 Ps" of personal defense keep you alive.

The 3 Ps are a simple technique helps you keep going even when all hope seems lost. Why would a pilot kill himself when he had minor injuries and food? He lost hope. Contrast this with a man who survived for days in the desert with no food, water or

skills. What kept him alive? He was going through a nasty divorce and refused to die so his wife would get everything.

The mind is a powerful tool. It can be your worst enemy or your most valuable tool in a survival situation. There are two easy steps you can take to make your mind work for you.

1. Choose to have a positive mental attitude.
2. Have something bigger than yourself to live for.

The 3 P's are important because they deal with what you feel Personal and Passionate about Now (Present). Moreover, these will change depending on whatever your 3 P's are at the time. In the beginning, it is good, to keep these in the forefront of your mind, especially if you are not sure you will fight back. You learn to manage fear and flip the emotional and psychological switch, you are ready to fight, with or without actual training. If your physical training is good and builds confidence, that's great. without engaging the emotional and psychological arsenal, the physical will never happen. Get the horse before the cart.



Determine these before the fight begins. Your psychological fear is greatly impacted pre-attack, which would allow you to gain tactical ground much more quickly if the attack is imminent. Make the psychological shift as soon as you sense the dissonance of a looming confrontation to get prepared.

This is desirable but may not be consistently possible. Scenario

dictates. In the ambush moment, you may have to shift from victim to victor mindset during the confrontation, possibly more than once. We practice converting our primal and protective flinches into tactical responses much in the same way.

There are law enforcement officers and military men who keep photos of their loved ones on their visors so every call they go out on the last thing they see is a their family...the psychological reminder being they are the most important things in the world. It probably works some of the time, but that image may not be what you are most Passionate about in the Present. Depending on the unfolding events, the most important thing in the world can shift in a heartbeat. For example, if you're being choked, the most important thing in the world to you in that moment is breathing. If you believe your life is worth fighting for then what may get you going is the fact that being attacked in the first place.

Management skills are important here because the circumstances can and do shift. As soon as you feel that dissonance, you need to get motivated and start thinking tactically as soon as possible. When Fit hits the Shan, the 3 P's may be what gets you up off the ground and back into the fight. Used proactively, it may help you avoid the fight altogether or talk your way out of it. How we feel affects how we think, and how we feel and think affects what we do.

Obviously my emotions will be impacted differently if I am facing 3 large opponents with weapons with my wife present as opposed to an unarmed opponent by myself with my friends present. It may take me longer to get to that point in the confrontation based on the scenario. Identifying your 3P'S for fighting back or for verbally defusing the situation in advance if POSSIBLE would place you in a tactical advantage as it is impossible to act differently than the way you think. The degree to which you are startled will determine how quickly and resolutely you can respond.

This system is built around the 'ambush' principle which means the 3 P's are a crucial 'backup' component for the emotional arsenal. "Its better to have one and not need it than to need one and not have it" In the beginning of a confrontation, many bounce back and forth between a 'WTF and holy-shit mode' and then tend to over-think the problem. Others allow pride and ego to dictate their initial strategies.

If you're aware, lawful, and ethical the only time the Three P's are really needed is during a very serious threat and only when that threat escalates to a level where you're at serious risk. At that point, fear and other elements can undermine your training and the emotional backup becomes critical.

BluePrint Exercise

This is critical to practice even only once in your lifetime. The number one reason why 90% of people die regardless of how much food, water or training they have...this one mental exercise is all you need to turn the tables. Some even claim this is what separates special forces soldiers from the rest of the world. This combats the reasons that people allow themselves to become victims in an attack rather than fighting back.

There are two similar examples that prove this point in different ways. At a seminar for a woman's group, they were asked the question whether they would defend themselves against the Boston Strangler. Only one woman in the entire group said she would fight back. Yet all the woman reacted with indignation and anger when asked whether they would defend their children and family in the same situation. The mental image of the aggressive and renowned assailant defeated the woman even before an attack. An opponent is already dangerous so why give them more to beat you with by 'feeling' the intimidation.

A woman who is afraid and submissive when she is attacked by herself, but indignant and willing to fight if her child is attacked. There is fear present when she is alone but when it is her child there is indignation present.

The psychology of the individual is crucial in deciding whether someone shows courage or cowardice in a confrontation and the outcome of nearly all physical confrontations is decided by the mindset rather than the skill level or technical prowess of the individual – indeed he notes that in real (street) fights technical training gives way to ugly fight 'choreography'. While it is better to avoid a fight (the best way of 'winning') the scenario may make it impossible, such as when you need to defend your family, and here the challenge is getting out of the fear cycle:

Doubt -> hesitation -> fear -> anxiety -> emotional inertia.

The point is to know that you *would* fight and to use concepts to prepare cues to overcome any previous social conditioning that would otherwise leave you dis-couraged ("I can't win" – where the visual focus is what the opponent can do to you rather than what you can do against them).



This could be a clear (not blurry) picture of a family member, someone who would tell you to fight to be back with them, but it can be anything that associates with a strong feeling that when it is pictured unleashes a strong urge to overcome the situation. Passionate goal oriented people of vision who are excited about living life to the fullest would be more prone to fighting back as they have a laundry list of things they are looking forward to in life. The victim mindset goes far beyond simply self defense, it is an attitude that permeates every area of someone's life and it seems that part of this whole process is helping people make a paradigm shift from Victim to Victor mindset as a worldview.

Associated with this cue, a Personal Directive should be defined that works for the individual to remain aware of their values and to channel the extent of any response (e.g. If threatened I will take every opportunity to diffuse the situation, including running, but if forced to fight I will defend myself with force in proportion to the threat presented). It also helps to remain aware of the 'indignation moment' when one flips from being in an anxious state to an enraged state – rage is powerful.

Every scenario will be different (typically an assailant will be after your property, your body or your life), but without doubt go with your gut feeling when deciding how to react. Instincts/Intuition = Intelligence. It is important to be able to detect an escalating situation, defuse it if possible.

For example, verbally conversing while adopting a non-hostile yet safe = spearish stance. All the while you should be prepared to quickly defend yourself if necessary. People are often their own worst critics, and that that criticism can be undermining. When it comes down to a fight, you can't be better than you are at the moment of truth. Accepting that you have limitations, it is important to ignore them when they are not useful for a needed outcome. More fights are won every day by untrained people than by those trained to defend themselves. People need to fight within their capacities not their potentials and when training compete against themselves not others.

In essence it shows that (false) expectations, beliefs and neuro-associations triggered in a scenario can trap someone in a loop where fear builds; to break the loop requires either action resulting from duress or from a consciously formulated visualized plan that seeks to negate the challenge or threat using cues from the present. Staying present is important as too much analysis results in paralysis.

Breathing In A Crisis

One of the most powerful tools we have is the breath. When in crisis it is normal to hold ones breath. The fight or flight response sends a message throughout the entire body. All unnecessary systems shut down, muscles contract, and adrenalin is pumped into the system, which magnifies anxiety and agitation. When one is holding the breath or breathing in a shallow way, the whole body is constricted and the effects of fear expand.

The central principle of breathing is of internal cleansing, getting rid of that which is old, worn out, and stale, and exchanging it for what is new, fresh, and energized. During inhalation we are bringing in fresh oxygen, nutrients, and vital energy. During exhalation we are expelling carbon dioxide and other toxins and poisons that we produce or collect in our daily lives.

The secret is to exhale more than you breath in. The Complete Breath is a dynamic breathing exercise that is both simple and complex. Regular practice expands lung capacity, which, in turn, slows down unconscious breathing and makes it smoother and more regular. In addition, The Complete Breath maximizes oxygen intake and enables oxygen-rich blood to flow to the extremities. It also cleans and invigorates the lungs.

In the beginning, it is best if the Complete Breath is practiced from a lying-down posture so maximum concentration can be placed on the exercise itself, which consists

of four separate aspects: inhalation, retention, exhalation, and suspension.

Inhalation

Inhale through the nose. Expand the lower abdomen, pushing out and down, just as if you were starting Abdominal Breathing. Once the abdomen is full, continue inhaling and expand the chest, filling the upper lungs. Raise the collarbone and shoulders as you continue inhaling. Fill the throat and the nose. Stop.

Retention

Hold the breath in. Bring your attention to the fullness of the body. Feel the expansion circulating the oxygen-rich blood throughout the body. Continue to hold the breath in for a count of five.

Exhalation

Exhale through the nose. Contract the lower abdomen pushing in and up. Continue to exhale by squeezing the air from the lungs and chest. Lower the collarbone and shoulders. Blow the air from your throat and nose. Empty it all out. Stop.

Suspension

Hold the breath out. Bring your attention to the emptiness of the body. Feel your body like an empty balloon waiting to be filled. Continue to suspend breathing for a count of ten.

Repeat

On the next inhalation don't gasp for air. Calmly and smoothly inhale just as before. Feel the air reaching far beyond your abdomen, filling every corner of your body like an expanding balloon. Notice the sensation of your body as the new oxygen is brought in.

Do the complete set five or ten times each day.

Conclusion

If you have a choice between being positive and being negative, be positive. It doesn't cost any more, and it will improve your performance and the performance of everyone around you. That doesn't mean that you shouldn't anticipate problems. You should. When you do, figure out a solution, move on, and improve on it as time allows. Never waste time focusing on problems when you can use that time to come up with solutions. It is subtle, but the difference in results is dramatic. Focusing on problems is degenerative in nature. It eats away at your mind, your sleep, and your relationships. When you identify a problem, immediately focusing on solutions trains your mind to look forward, to anticipate a better future, and to spend time on thoughts that can actually help you.

Psychology is vital to survival. Your ability to positively influence the thought patterns of yourself and those around you may make the difference between death and survival. In a survival situation, you may need any number of skills like martial arts skills, firearms skills or negotiating skills. It is a given you need the ability to calm your mind and calm the minds of those around you.

Sucker Punch Mentality

There exists an old martial arts notion fostered by movies and television shows that you wait to be attacked, and then respond or react accordingly. It is not the most a realistic approach to difficult situations.

In the martial arts context of combat or confrontation, if you feel your safety is threatened, you generally don't wait for something bad to happen, like a punch in the face. Instead, you get on the offensive and try to prevent anything negative from happening in the first place. In other words, you sucker punch the problem – you get it before it gets you. 'Sucker punch' refers to beating someone or something to the punch.

Martial arts teaches focus and discipline, but also proactive action and anticipation. The martial artist sees their partners' actions and stays one step ahead, always being prepared and aware in all circumstances.

This valuable skill then expands itself into being a proactive individual in all aspects of daily life. Instead of letting life push you around, you sucker punch it, and take hold of your own destiny.

In a sense this course is putting this philosophy into action. You are taking steps ahead of time to deal with the various crises or disasters that could keep your family from surviving the events as they unfold.

Size Up The Situation

Human beings give off signals about what they're about to do before they do it. You just need to know what those signals are and look for them. (easier said than done perhaps, but very doable)

Survival Reaction Time

If you don't see an attack coming, I don't care who you are, you're going to get hit. If you see it coming, but too late to do anything about it, that's not much better.

The time that elapses between a sudden and unanticipated threat, and your response to it, is called "Survival Reaction Time."

The longer it takes you to recognize and respond to a violent act, the less likely you'll defend against it successfully. An important goal in self-defense is to shorten that time frame as much as possible and react fast.

Non-Verbal Communication

Study after study supports the fact that MOST communication between human beings is “non-verbal.” Business people study it. Police interrogators study it. Heck if you are single, that's how you figure out if someone you're interested in is attracted to you. If you want to know about self-defense in a crisis or disaster you should study it too.

Meaning, intent, truthfulness or deceit can be interpreted by signals that we project with our bodies. The good news for us is if you know what to look for, people also indicate their intent to turn violent before they actually do.

The Transfer Of Intent and Meaning

Intent and meaning are transferred from one person to another in three ways:

1. What we say.
2. How the human voice sounds when we say it: tone, inflection, pitch, rate, etc.
3. Body language including movement, positioning, gestures, expression, eye movement and distance

Each aspect is said to be as follows:

1. Words make up 7-10% of the meaning or intent
2. The voice carries 33-44% of the meaning or intent
3. Body language nuances account for the remaining 50 – 60% of the meaning or intent.

You can reliably detect and recognize assaultive behavior before it happens by paying close attention to the body language of people around you. Anecdotal evidence from self-defense instructors and street cops support the validity of this theory. You see it all the time in the crime shows as well. While they are not truly reality TV. If they were wrong, we all would have heard about it well before this.

The following information is designed specifically for one of the most difficult self-defense problems to deal with regardless of your technical skill. That problem is the a “spontaneous assault.”

It doesn't matter how long you've trained or what color belt you wear, if you get caught off guard by a sudden and unanticipated sucker punch, tackle, or armed assault, you've got a lot of catching up to do...

Knowing what to look for, and being attentive enough to actually look, is crucial in surviving a violent street encounter. The importance of what I'm about to teach you can't be overstated.

Keep in mind that any of these signals in isolation is not a dependable indication of behavior. ALL of them won't be there in every case. What we need to look for are groupings of these indicators to predict the probability that a situation is about to get physical.

Here is a list of "pre-assault behavior and body language" that you need to know...

- "blading" the body – placing the dominant foot to the rear and adopting a more solid stance to launch an attack.
- clenching or pumping the fists – blood is directed to the major muscles during the "fight or flight response" causing vaso-constriction of the hands and fingers.
- extremity tremble – shaking fingers and knees due to adrenaline
- clenching the jaw – a sign of stress and tension
- looking around before closing the distance -looking for witnesses• distracting or aggressive dialogue – trying to draw you closer, distract your before the assault or "pump himself up" and try to legitimize the assault.
- rapid shallow breathing – a stress response
- exaggerate movement – a stress response
- stoppage of movement (thousand yard stare) – preoccupation with a mental game plan
- shoulder shrugging or rolling – trying to release tension in the shoulders
- positioning and distance - he can't hit you if he can't reach you

Reflect on these indicators. When you're out in public or if you're in a high-conflict profession (law enforcement, corrections, security etc) watch for these signals and you'll see them. If not treat yourself to a couple of movies on DVD. You'll see these behaviors up close. and unlike real life this method gives the ability to pause the action and replay it.

There are often video clips on the internet. If you come across one depicting violent encounters watch what happens before the actual fight happens. You'll find it interesting how consistent pre-assault signals actually are.

Reaction versus Action

We have all heard the old saying "Practice makes perfect." Well, my band director used to give it a different spin, because human beings rarely do anything perfectly. He'd say practice makes permanent. Which brings us to muscle memory....

Learning a repetitive skill, regardless of whether that skill is playing golf, playing the piano, or drawing from the holster involves what is commonly called muscle memory. But muscles have no memory, so where exactly are these repetitive skills being stored? The answer is the cerebellum. When a certain skill or movement is practiced repeatedly, pathways are actually modified in the cerebellum to store and link individual movements, similar to how individual still frames are stored and linked on a spool of film. The more the skill or movement is repeated, the stronger the pathways linking the individual steps. The result can be near automatic playback of the stored memory of movements.

For example, new students learning to draw from the holster will learn that there are four steps involved, and they will practice those movements in four distinct steps. But after thousands of repetitions, those four movements have become fluid. The steps are no longer evident and few can tell that there are even steps involved. To an onlooker, the process is fluid and automatic. No one knows how many times a task or series of tasks will need to be repeated before it's ready for automatic playback. Casually visiting the firing range a few times of year is not going to cut it. Dry firing, drawing from the holster with a cleared firearm, and virtual simulations are all ways that these pathways can be built. You never have to fire a shot.

Is Action Faster than Reaction?

If an attacker unexpectedly lunges at you with a knife, can you draw your firearm in time to stop him? Can you out draw an attacker if he already has a firearm pointed at you? When the threat ends, how quickly can you stop shooting?

To prepare ourselves for the reality of shooting in self-defense, and the reality of defending our actions in court, it's critical to understand the limitations of human reaction time. Those limitations will affect our preparation and training, not to mention defending ourselves in court. Two studies that analyzed reaction times to visual stimuli can help you understand. The first study analyzed vehicle braking reaction time, while

the second study analyzed the reaction time required for shooters to start shooting and to stop shooting. The results of both studies answer the questions above.

How Fast Can You Stop Your Car?

In this study, researchers concluded that reaction time is actually a sequence of stages. For our purposes, we'll group them into the following components:

- Perception/Cognitive Processing Time is the time required for the individual to receive, recognize, and process the sensory signal and formulate a response. In scientific terms, the sensory input to pass through the thalamus to the sensory cortex
- Motor Reaction Time is the time it takes to make the movement needed (removing the foot from the accelerator and stepping on the break). The motor cortex signals the need for movement to the muscles and they respond.

In this study, researchers tested braking reaction times under three different scenarios: when the braking maneuver was expected, when it was unexpected, and when it came as a complete surprise. The "expected" scenarios occurred when the person being tested knew that the test was to measure their braking reaction time, and they were prepared to brake as quickly as possible when signaled to do so. The "unexpected" scenarios occurred when the person being tested had to react to common but unexpected signals, such as seeing the brake lights of the car in front of them. The "surprise" brake maneuvers occurred when something completely unexpected occurred during the scenario, such as an object suddenly moving into the driver's path.

As shown in the chart, when a braking maneuver was unexpected or came as a surprise, the perception/cognitive processing time that occurred before movement began ranged from just over one second to 1.2 seconds. Even when the maneuver was expected, the perception/cognitive processing time was 0.5 seconds before movement began. Before analyzing these numbers further, let's take a look at the "Tempe Study," which analyzed police officer reaction times to start and stop shooting.

The Tempe Study

We've all tried the "dollar bill" trick, where one individual drops a dollar bill without warning, and a second person tries grabbing it. The question is, why is it so difficult to catch the dollar, even though we're expecting it to be dropped? As shown in the studies outlined in this section, researchers know that even when a stimulus is expected, humans require between one-quarter and one-half of a second to perceive and process

the input, and on average, another 0.06 seconds to complete even the simplest movements such as pressing a trigger, or pinching our fingers to catch a dollar bill. In the “dollar bill” trick, gravity beats reaction time, since even the fastest reaction time of 0.31 seconds results in the dollar bill falling just over a foot and a half before the brain can process the input, and the fingers can pinch closed.

102 police officers from Tempe, Arizona underwent a series of tests to measure their reaction time to start and stop shooting based upon visual stimuli. In these experiments, the officers were expecting the stimuli, and they knew they should start and stop shooting based upon the stimuli, so the perception/cognitive processing time, and motor reaction time were kept to an absolute minimum.

Researchers determined that the average officer required between 5/10ths and 6/10ths of a second to react to the light going out, and to stop pressing the trigger.

Experiment #1: Time to press the Trigger

The first test was designed to determine the officers’ average response time to press the trigger based upon the visual stimulus of a light. Results indicated that the officers, on average, took 25/100ths of a second to react to the light, and another 6/100ths of a second to press the trigger, for a total response time of 31/100ths of a second.

Experiment #2: Time to Stop Pressing the Trigger

In this experiment, the trigger press was to begin when the light went on, and end when the light went out. During this test, the researchers determined that the average officer required between 5/10ths and 6/10ths of a second to react to the light going out, and to stop pressing the trigger. Since the trigger could be pressed much faster (6/100ths of a second) than the officers could react to the changed conditions (at least 5/10ths of a second), each officer pressed the trigger at least twice, and sometimes three times after the light indicated they should stop shooting.

Multi-Tasking and Its Effect on Reaction Time

In both studies, researchers concluded that the more an individual was multi-tasking or the more complex the required movement was, the longer the reaction times would be. Multiple driving studies compiled by the National Safety Council concluded that driver multi-tasking added an average of 0.6 seconds to the response time required for braking. During the Tempe study, multitasking was limited (the officers were only focused on the light and trigger press), however the researchers pointed out that during critical incidents, officers were very likely “moving, pointing, ducking, seeking cover, shooting, processing, reacting emotionally, etc.,” which would affect their overall ability to start and stop shooting.

Conclusion

Based upon the results of both studies, it's clear that reaction time is more than just the time required to draw a firearm, press a trigger, or press a brake. Reaction time also includes at least one-quarter of a second, and as much as 1.2 seconds of perception/cognitive processing before any movement takes place (in ideal, controlled conditions). Taking those numbers and placing them in the context of self-defense, let's go back to the earlier questions.

If an attacker lunges at you with a knife, can you draw your firearm in time to stop him? It depends on how close the attacker is. Since attacks usually are unexpected, we would need 1.2 seconds to perceive and process the fact that we're under attack, plus the time required to draw our firearm and aim it at the attacker. If the motor reaction time takes two seconds (the time to face the attacker, and draw our firearm). That means that our full reaction might take more than three seconds, which is enough time for an attacker to cover more than 50 feet. So the answer to the question is, "Are you more than 50 feet away from the attacker?" or better yet, "How closely were you observing your surroundings?"

Can you "out draw" an attacker if he already has a firearm pointed at you? No. Based upon the results of the Tempe study, we can conclude that an attacker will require just 6/100ths of a second to press the trigger, while we'll need as much as 1.2 seconds of perception/cognitive processing time, before any movement can begin, including drawing our own firearm, or ducking behind cover.

The short answer is that action always beats reaction.

When the threat ends, how quickly can you stop shooting? Based upon the Tempe study, the answer is at least 5/10ths of a second when multitasking, and longer when engaged in multiple tasks simultaneously, such as moving, seeking cover, etc. Asked another way, "If you press the trigger, and the attacker surrenders and throws down his weapon, can you keep from shooting him?" The answer is no. The test indicated that the time required to react to the changed condition was more than eight times the time required to abort pulling the trigger. Once pulled, it was simply impossible to stop it, even if the situation had changed.

While automated responses like ducking into a crouch when a loud noise occurs can be near instantaneous, the responses governed by the long route through the brain) are not instantaneous. Because of that, we must compensate by:

Being hyper-aware of our surroundings and the individuals within our protective bubble.

Preparing for an attack before it occurs by increasing our distance, orienting toward the possible threat, taking cover, and/or preparing to access our firearm.

Making intelligent decisions about our equipment and carry techniques – for example, too many holster retention devices, or too many layers of clothing, can slow a response.

Action beats reaction. In a fight, if all you're doing is reacting to what's being done to you then you are always behind. This is a bad place to be, and makes winning the fight extremely difficult. While we may initially be in a reactive state, responding to the actions of the threat, you need to go from a reactive state into an aggressive mode and force the threat to react to you. You put the attacker on defense. Either he quits, or you stop him by force.

To make the transition from reaction to action means being in complete control of yourself at all times. Don't allow yourself to be surprised. Stay aware of your environment, the people around you, and what they are doing. Spotting potential trouble provides you time, and time allows more choices. Depending on the situation you can enter aggressive mode by through defensive tactics such as creating distance, avoidance, or escape. You make the attacker have second thoughts.

The situation may call for immediate combative skills. Many attackers are smart and they do not telegraph their intentions until they have you where they want you. In this case it may be a matter of timing, waiting for the opening that provides an opportunity to apply aggressive tactics and skills. Without remaining calm, mentally and physically, there is no hope of working this "switch," unless you get lucky.

Flexibility is also a necessity. You begin the confrontation with one idea of how to beat your assailant, but then the situation changes and a completely different route is needed. Fights are very fluid and dynamic, or at least that's how you should fight. Don't paint yourself into a corner with preconceived notions of how the fight will go. As the old saying goes, "improvise, adapt, and overcome."

You face a problematical situation and you have seconds to come up with a solution to that problem and implement that action. This is why time is so important. The more time you have, the more options are available. The actual act of physical combat is to be avoided. Any time you fight, you run the risk of losing. The preferred method of winning the fight is by using your brain, without having to apply physical skills. Then there are situations where you simply don't have time to think, you have to know what to do, and do it right now.

When facing a violent threat, victory is achieved by forcing them to react to you. Aggressively apply your skills, both defensive and offensive. Action beats reaction.

Mental Mugger exercise

Muggers are quickly influenced by superficial appearances. First of all they always choose to attack people who look as though they might be worth attacking. If you have to dress up in smart evening clothes and then walk through a rough area put an old coat on top - try to look as much of a mess as you can. If you have to drive and then park your car in streets where muggings regularly take place don't clean it. Muggers are attracted to shiny, brand new cars.

If you're walking alone in a new area where you feel vulnerable and frightened try waving occasionally as though you have seen a friend or a relative. Say 'hello' to shopkeepers or wave cheerily to people hanging out of apartment buildings. Muggers much prefer victims who are lonely as well as alone.

Walk tall. Try to look as big and as broad as you can. Stick out your chest, push back your shoulders and hold your head up high. Muggers are usually cowards - they invariably prefer to attack people who look weak. Don't shuffle along with your head down. And walk at a good pace. Muggers usually go for people who walk slowly. If you travel fast there is a good chance that you will be out of range before the mugger has decided what to do.

If you see someone who looks like a potential mugger don't look at him. Muggers often lack self-confidence and have tremendous chips on their shoulders. If you look at a would-be mugger he will consider it a challenge and he will feel that he has to respond. If you have to pass a group of potential muggers try to walk past as though you haven't seen them. Don't respond and don't allow yourself to be tricked into making any comment - whatever you say will probably be used as an excuse for a physical attack.

Take special care at vulnerable moments. If you are walking through a dark or dodgy neighborhood walk in the centre of the road - away from any possible ambush. Take special care when crossing roads, getting out of or into a car or coming out of your home. It is at those times - when you are concentrating hard on what you are doing - that you are particularly vulnerable to muggers and attackers.

Always try to look relaxed and at ease. If you are walking tensely or nervously through a dangerous district then you will attract muggers like a jam pot attracts wasps. Try to look cool and confident and unconcerned - however you may feel inside - and the muggers will probably give you a miss.

If you are approached by someone who looks like a potential mugger don't stop to fight or to argue. Even trained self-defense experts always say that the best form of self-defense is to run away. So run away as fast you can and make as much noise as you possibly can. Shout and scream as loud as you are able. If you can't run then act crazy. Muggers don't like 'nutters' - they are too unpredictable. Try talking to yourself - very

loudly - as you walk. Or chat away to walls and lampposts.

However frightened you are try not to show it. If you show that you are afraid then your would-be assailant will feel stronger and more powerful. He will be more - not less - likely to hit you. Remember that muggers and people who commit violent crimes are usually cowardly. But try, too, to show him that you are not a threat to him. Try to keep your voice calm and relaxed. Try to look cool and relaxed. If you threaten him - or push him into a corner - then he may become more aggressive, particularly if he has friends around who he thinks he has to impress.

Try to get a would-be assailant to sit down. People are always less aggressive and less likely to become violent when they are sitting than when they are standing. Encourage him to talk to you - it doesn't matter what you talk about. If he obviously feels angry about some injustice then encourage him to tell you about it. Let him get his gripes off his chest. Listen and offer encouragement. Nod your head to show that you are listening attentively. If you show that you are sympathetic he will be less likely to be violent to you. If he will listen to you then offer him advice and suggestions about ways in which he may be able to deal with his problem. He is probably lonely and frightened. Be his friend - for the time being at any rate. If you offer him alternatives - and hope - he will be less likely to harm you. But never threaten or command. He probably hates figures of authority. Talk in a gentle voice. Be friendly rather than bossy or arrogant. And don't make the mistake of trying to win him over by making aggressive statements of your own - you may annoy him.

Use body language to make him feel comfortable. When you are talking open your hands towards him - that simple gesture will help to make him feel more comfortable and more relaxed. Don't look him straight in the eye and never try to stare a would-be mugger down. You will make him feel uncomfortable and threatened if you do. Look at his face or chest but keep your eyes away from his eyes. Try not to show any emotion; try to keep your muscles relaxed. If you become tense then he will become tense. If you stay relaxed then he will probably stay relaxed. If you are both standing (and you haven't managed to get him to sit down) try to keep slightly more than an arms length between the two of you. It is vital that you don't threaten him or make him feel uncomfortable or trapped. Wild animals and human assailants behave in much the same way - wild animals are much more aggressive and dangerous when they are trapped. Your aim must always be to relax your would-be assailant.

There is always a split second of hesitation just before the mugger starts his assault.

For example, an officer doing undercover work as mugger's decoy recounts this story: He was playing an old man and had just returned to his apartment when the mugger, who had slipped into the building with me, approached me from behind and asked me what time it was. That instant between the asking of the question and his attack, when

he started pushing the officer inside the apartment could have been used by any would-be victim, anyone who had their wits about them, to try and cut off the coming attack.

He had back up to rescue him. The sad reality is any other victim of an attack would most likely be alone and without prospects of rescue. However, even without the police just around the corner, all is not lost. There are a few ideas that can help defeat a mugger's attack.

- Devise a plan of action for a variety of scenarios. Think, what do I do right now if someone comes out of this store and makes a grab for my purse? What do I do if I'm hit from behind? You're confronting the problem with a solution and now it will depend on reflex. I can guarantee that with a plan already in mind, that Golden Second can be used to your advantage instead of to the advantage of the predator.
- Make plans with your companion. For example, if you're walking down the street and a man grabs your wife's purse, you should have planned what you're going to do that split second of time. How a person reacts can mean the difference between severe injury and death. Even in police work I have found officers who were woefully unprepared for the unexpected. During informal lectures on officer safety I would tell them that, instead of sitting in the coffee shop talking about the kids or golf, they should come up with a plan of action they could rely on if the pair of them were to walk into an ambush. I would ask them to devise a scenario and to come up with a way to react to it. Nine times out of ten I found that officers had perfectly logical and sound plans of action, but they were independent plans which did not include the other. The same maxim should apply to the elderly.
- If you don't have a spouse or close friend you can rely on, there is a very specific plan of action to take if you are confronted by an attacker. Because elderly people are not able to engage in a physical battle with an assailant, their one and only hope is to launch a psychological counter-offensive of their own.

In that split second when your eyes lock and you know that something very bad is going to happen, grab your chest area and fall to the floor or sidewalk, yelling loudly that you are having a heart attack. Now, it may be that by falling down an older person has made themselves more vulnerable to attack. But I believe the advantages of this approach far outweigh the drawbacks. It is almost certain that a person who stalks you, follows you into your apartment, and demands money is no criminal novice. Most have done this type of crime before. This isn't the apologetic opportunist who saw you flash some money on the street, ran up to you and took it out of your hand. This is somebody who is criminally bent and more than likely has some knowledge of the law.

If you fall to the ground, chances are that this person will flee. Why? Because he knows that if there's a death in the commission of a felony then he's going to be put away for murder. By clutching your chest and feigning a potentially fatal heart attack, you've left the realm of simple burglary and entered another plane where the penalties are much higher. Also, if you're on the ground, he's less likely to bend down and expose himself to a possible kicking attack while attempting to strike you with his fists. He may try to kick you with his feet (if he gets that far) but to challenge that, you can swing around on your back or your buttocks and kick at him with your feet.

Chances are that people will say, I don't want to fall down and expose myself to attack like that, but the chances are high that this predator, having gotten to this point in his hunt, is going to knock you down anyway. When you go down this time however, it will be on his terms -- disoriented and possibly severely injured -- and at that moment you're at the mercy of a man who is now electrified by the thrill of his lopsided victory and the hatred he has for his victims.

And you should realize that it is a hatred, that a criminal is often blaming the victim at his feet for the perceived injustices of his life, and that once you become the focus of that sort of hatred, anything can happen.

- Watch their eyes and listen carefully to their voices. If an attacker is highly strung to begin with, chances are good that if you say something completely off the wall, something to the effect that you are suffering from infectious impetigo, the time he spends trying to figure out exactly what that is will give you an opportunity to get away or to summon help. Many women have successfully dissuaded would-be rapists by telling them they are suffering from a particularly active sexually transmitted disease. This may sound extreme, but it could be argued that people who make themselves disgusting in the predator's eyes may not become his victim.

Look at the alternative. If you're seventy-seven years old and you decide to fight two eighteen-year-olds, and you do make a show of it, but in the process they've broken your hip, your wrist, and your jaw as well as gotten your wallet or purse, who's really won? You've got your pride, but in the long run you've also sacrificed your health and maybe even your sanity because once happens to you, you are never the same again. Think it over. The object of the exercise is to hear the click-click of the handcuffs going on them, not to hear the click-click of the ambulance door closing on you.

Any attempt at physical resistance will probably fail. Now you're going to make them mad because, if you are lucky, you may have succeeded in hurting them slightly, something they did not take into consideration when they initiated their attack. But even though a successfully landed blow may be a tremendous boost for the ego, only the worst will come of it, because your assailant will most assuredly try to reestablish

his superiority and then it will be pay-back time. At the end of your attack will you have won? And if you haven't, now you're going to lose in a bad way. To make matters worse, there's always the very high chance that your mugger has got a confederate and these people are not hesitant about jumping on their victims in tandem.

- When confronted in your own home, you have to draw the line somewhere. It's either Fight, Flight, or Feign. Either you hurt him and make him afraid, which is the unlikely scenario, you run away, or you do something so completely off the wall that it stops him in his tracks and makes him think. Looking down at you writhing in pain on the floor, a grimace on your face, and your hands clutching your heart, he's got to wonder if you're worth a murder conviction. He's got to stop and think about what he's going to do and that's when you've managed to turn the Golden Second to your advantage.

Each person has to make their own decision about when they will fight and what they are willing to fight for. Some human beings can stand by and watch their parents get killed or their sister assaulted and live to give the police an accurate description of the assailants. Some can do that but not live with themselves successfully afterward.

Your reaction to a given situation is predicated on your state of mind at a given moment. All kinds of factors must be taken into consideration, whether there's one attacker or two, whether the person is armed. The trick is to turn the element of surprise around and come up with a surprise of your own.

- An important thing to remember is that most criminals are, when it comes down to it, essentially cowards. Many are simply not capable of carrying out a crime unless they bring a henchman along to help them. Why? Because they like the guy and they want to share the loot they're going to get in this robbery? No. It's because they're afraid and they want to make sure they can win. Their sense of bravado is heightened when they have a confederate with them.

What if you are confronted by assailants wielding guns? That Golden Second when one well planned move might be enough to confuse and frighten an unarmed opponent has now been heightened considerably, because if you fail, you're staring death in the face. Whether you are to live or die depends on how you react and on that unknown quantity -- how your attacker is going to react.

Remember that there are a good many armed robbers out there these days who would be perfectly happy to shoot you dead, even if you comply with their demands. Pumping hard on alcohol or drugs, many feel they have nothing to lose and everything to gain by taking your life. It's a difficult spot to be in. But the object of the exercise is to prevent the situation getting to that point.

- One thing you can do if confronted by a man with a gun is to try not to stare at the weapon, something everyone does, even police officers, when they find themselves at the wrong of a firearm. Try to look at the person's face. Look for a mole, a facial tic, or tattoo, so that when that man brought before you after the robbery, you can look at him and in all certainty say, "That's the man." Go for some detail and key on it. One robber was recently caught and convicted after his latest victim described the Mickey Mouse shoelaces he was wearing.
- Beware of women offenders, who often use their wits instead of a weapon. Be careful of young women who come up close and run their hands over your clothes, talking about how she is going to cook your dinner and whispering sweetly in your ear at the same time her hand is going for your wallet.
- Remember that anyone can be assaulted, even the youngest, bravest among us. Recently a female officer from my department went to a public housing project in plain clothes to follow up on an investigation she was conducting. She boarded an elevator in the building. She was standing there when the elevator stopped, the door slid back, and two men got on, one taking position to her left, the other to her right. After descending a few floors they put her up against the wall and decided to see what she had in her purse. They took her gun and her money and for one frightening moment taunted her until the elevator stopped again and they got off. Fortunately, they didn't see her badge. When those two guys got on the elevator, she should have gotten off on the next floor or maneuvered into a corner, keeping one hand in her pocket and her head up.

When your fear sensor goes off and you've been bracketed by two men, try using a little psychology. Once they focus on you, try to break their train of thought right away. So you say, "Excuse me, I'm very sick. I just learned I have meningitis," or something else to make them stop and think.

- Finally, every day of your life you either learn or teach something. You get something from that acquired knowledge. You take it with you and, if applied correctly, it can help make you a winner. There's an attitude you have to develop about winning. The battle of winning versus losing can be won or lost in your mind.

Believe in Yourself

To win any possible conflict, you must have a genuine belief in yourself. You can't run scared. However, a truly dedicated criminal intent on robbing an older person at any cost will doubtless carry out his assault, confronting that person on the street or on the threshold of their home and leaving them with only a split second in which to prepare a defense. How a person uses this second, the fraction of time between and idle inquiry for the apartment number of a non-existent neighbor or a request to use the telephone

can determine whether the victim is actually robbed or in more drastic cases, whether one lives or dies.

Back Down An Opponent

Create physical distance. The other person is likely as riled and angry or afraid as you are and this makes things volatile. By stepping back or standing away, you make the first call to not engage any further in fighting. Keep your distance—if the other person comes closer, move away again.

Assess whether or not it'll work to talk. In many cases, the emotions are just too heightened for a discussion. However, if it seems that talking might work, throw some hooks as an invitation to talk instead of fight. For example: Say something like: "Hey buddy. I don't want this. You don't want this. Let's be reasonable and talk it out." This may not be the right time to work out the deepest, darkest motives of the other person. But it is a good opportunity to acknowledge his or her anger or frustration in ways that show you are paying full attention to their grievance.

Ignore the insults or negative comments your opponent is flinging your way. These are the last ditch efforts to rile you into returning to the fight. Recognize them for what they are and don't personalize them.

You may hear taunts related to members of your family or other people you care about. Think of it as an idiot straining to provoke you.

Just stay calm and do your best to convince him or her that a fight is a bad idea. When trying to avoid a fight, keep eye contact and also try to keep an eye on the hands. While attempting to defuse the situation, it is important to keep your hands in a defensible yet non-aggressive position. Moreover, prepare to defend yourself mentally just in case, as follows:

Be ready to block sucker punches to your face/body, but not in a "fighting stance".

Use the "prayer position" with both palms pressed together, which looks non-threatening, but keeps your hands up near your face.

Use the "stay back" position, hands facing your aggressor palms outward.

Use the "I'm thinking" position, with a hand on your chin/head. Remember, try to seem natural while you do this. Keep protected at all times.

Verbal Self Defense

You very rarely need your physical combat skills except when (and if) you take part in tournaments and exhibitions.

But that doesn't mean that you never are involved in conflict. On the contrary! Unless you're very unusual, not a day goes by that you don't find yourself fighting with other people. It's just that the conflict is verbal instead of physical. When your boss chews you out unjustly, the fact that you could have him down on the floor begging you for mercy in seconds is no use to you. When somebody shoves in front of you in a line, your physical skills are no help. When the fight is with your spouse or your teacher or your parents or your kids, it makes no difference how many kicks and holds and moves you know. In the vast majority of verbal conflicts -- which today means the vast majority of all conflicts that occur in your life -- using your physical martial arts skills will get you fired, or arrested, or both.

Even if you work in a field where the potential for physical conflict is much higher, such as law enforcement or emergency medicine, you're rarely free to respond to a physical threat physically. To do that always means risking citizen complaints, malpractice suits, and similar problems. You may have to do it, but it's not going to be your routine first response, and you're going to have to be extremely careful.

For every incident of physical violence that goes on in this country today there are hundreds of incidents of verbal violence. Sane people who aren't criminals don't just walk up to others and start hitting -- which means that almost 100% of physical conflict starts out as verbal conflict. First there is an argument. First there are hostile words, or hostile body language such as shrugs and sneers and insulting gestures. Only then, after the hostile language, do people start hitting. And up to that point -- up to the moment when physical combat begins -- what you need is verbal self-defense.

There are two goals in verbal self-defense:

To establish and maintain a language environment around you, by your own behavior and by the power of your presence, in which verbal violence almost never happens.

To be able to deal with verbal violence -- on those rare occasions when it really cannot be avoided -- efficiently, and effectively, with no loss of face on either side.

This is the martial art of verbal self-defense. You might not have needed it in past centuries. You might not need it in parts of the world where life is brutal and violent for almost everyone. But in the Western world today, you do need it. Without it, you're not "ready for anything"; you're only ready for things that may not happen once a year. The rest of the time, you are in the same situation with regard to verbal attacks that people who know no martial arts are in with regard to physical ones: dependent on blind luck to get you through. That's not safe, it's not necessary or sufficient, and you can do far better.

The Four Basic Principles of Verbal Self-Defense

First Principle: Know that you are under attack.

When an attack is physical, you never have any trouble spotting it; you know immediately when someone hits or kicks or shoves you. You can feel the attack directly. If other people are around, they will usually have seen and heard the attack too, and they'll agree with you that it was an attack. Often there'll be physical evidence in the form of bruises or cuts, to back up your claim.

Verbal attacks are very different. Not that you can't feel them -- you can. But the feeling is what we call a gut feeling; it's not like the pain from a punch or a kick or a slap, for which you could always say exactly where the blow fell. And it's often very hard to spot the actual move the attacker has made. Because...

For English, verbal violence isn't in the words: It's in the tones the words are set to. We can say any sequence of English words, no matter which ones we choose, in a way that is hostile and brutal. We can say any sequence of English words in a way that is friendly or loving. The emotional messages of English are carried by the tunes we set our words to, not by the words themselves. You may have thought that it would be easy to spot verbal violence because the attacker would be using obscenities and open insults and calling you ugly names. That's false, for three reasons.

1. Most people who attack in that way do it as part of a physical attack.
2. It's perfectly possible to set obscenities and "insults" and ugly names to friendly tones.
3. Most verbal attackers are careful to choose words that will leave them able later to use this move: "But all I SAID was.....", followed by the same words spoken with a different tone.

If what someone says to you gives you a gut feeling that you've been attacked, you should pay attention to that feeling, no matter what words were used. You know what verbal violence sounds like; it's as much a part of the language as any word is, and when you hear it, you recognize it.

Written English isn't very good at showing the tunes that go with the words, but we do have a few ways to at least make a stab at it, and we'll be using them in these lessons. Compare these two sentences, where some words are in all capital letters to show you that the person saying them is really bearing down on those particular words to give them extra emphasis.

"Why do you eat so much junk food?"

"WHY do you eat SO MUCH JUNK food?"

Notice: Those two sentences have exactly the same words, but they don't mean the same thing at all. "Why do you eat so much junk food?" is just a question, asked by somebody who wants to know the answer. It may be a rude or nosy question, it may be a question you'd refuse to answer -- but it's not an attack. The other sentence is very different. Someone who says "WHY do you eat SO MUCH JUNK food?" to you has absolutely no interest in your reasons for eating junk food. That sentence is not a question, it's an attack. And it would still be a verbal attack if it looked like this: "Sweetheart, WHY do you eat SO MUCH JUNK food?" When the tune is violent, throwing in a few "sweethearts" and "dears" doesn't cancel the violence. Don't let "sweet talk" added to a verbal attack confuse you. Verbal attackers will try hard to tell you that you're just being childish, that you're being "too touchy," that you're only imagining things, that "all they SAID was..." something completely innocent. You speak of English; you know when you are under verbal attack because you feel it, in exactly the same way that you feel it when somebody hits you. Don't be confused: Know that you are under attack.

Second Principle: Know what kind of attack you are facing

When you find yourself in a physical fight, you automatically size up your opponent. You make judgments about your opponent's strength and motives and goals. You need to do exactly the same things with verbal attacks. Ask yourself these questions:

1. How strong and skilled is this person who's attacking me?
2. Why is the attack happening? What would be the reason behind it?
3. What is the goal of this attack? What is the attacker trying to accomplish?

When an attack is physical, you can pretty well judge the person's strength by just looking. Almost always, attackers who are children or elderly people, or who are sick or handicapped, will also be weak. You can't rely on such things with verbal attacks, because they don't require physical strength. A very small child, a sweet-looking elderly woman, a frail-looking elderly man, a person lying sick in bed -- such people can be very good at using verbal violence. Don't let appearances mislead you.

As for the motives and goals, sometimes they will be as mysterious as they are in physical attacks. But stop and think, when an attack happens; you may be able to figure it out. You can tell the difference between a person who's just picking a fight because he's bored, and one who's attacking because somebody else just chewed him out and he needs to take that out on somebody. You can tell the difference between a person who's attacking because she's showing off and one who's attacking because

she's so tired and worried about something else entirely that she doesn't really know what she's doing. As you practice your verbal self-defense skills you will learn to recognize many different types of attackers and attacks.

Third Principle: Know how to make the defense fit the attack

Suppose somebody hits you and you realize that it's because they're just totally out of control and scared and hitting out without even knowing why they're doing it. You don't come back at that person with the same physical force that you'd use if somebody came after you personally with the goal of doing you serious damage. When a confused person who's had too much to drink swings at you, you handle that differently than when the attacker is someone with a clear mind. You don't hit someone who is only half as strong as you are with the same force as someone that you know is your physical equal. In physical combat you honor the rule about not using elephant guns to shoot butterflies. In verbal self-defense, you follow exactly the same principles.

Fourth Principle: Know how to follow through

You might think that this would be the easy part. It's not -- it's the hardest of the four principles to follow. Nothing is harder than learning to do something differently from "the way you've always done it" -- and the chances are good that the way you've always handled verbal abuse is all wrong. "Fighting back is one of the most counterproductive responses in most conflict situations." That is even more true in verbal conflict than it is in physical conflict. What verbal attackers are usually trying to do is prove that they can get and keep your total attention, even if you had other plans for the time involved. They may have additional goals, but the main thing they want is your attention and the emotional charge that comes with it. If that attention comes in the form of fighting back, that's okay; the attacker will be delighted. If it comes in the form of one of the other two ways our society teaches us to handle verbal abuse -- pleading ("Oh, PLEASE don't start that!") or debating ("There are four reasons why you shouldn't say that to me. First....") -- the attacker will happily settle for one of those, too.

Your natural tendency when someone starts using hostile language at you is to respond by counterattacking or pleading or debating, depending on the situation and your personal style of language behavior. The temptation to do that is very strong; the habit of doing that is very strong. However, when you do it you are giving the attacker exactly what he or she wants. If the attacker can get you to do one of those things and surrender your total attention, the attack has succeeded.

Listen. Close your mouth and open your ears. Angry people don't want to hear about why they shouldn't be angry. They don't want to hear about how it's not your fault. And

they, at that moment, care very little about how you feel because, at that moment, they don't see you as a human being with feelings. They see you as the devil incarnate. More important, they just want to be heard. If you interrupt, make excuses, blame, or stonewall, you will strengthen this person's mental image of you as the devil incarnate, making him or her even angrier.

Fight the instinctual reaction to meet anger with anger, sarcasm with sarcasm, blame with blame, and insult with insult.

Note: It helps to know that this reaction comes from your self-preservation instinct. It's tied into the fight or flight response. And, back in the day when we all carried clubs for protection, it had a real purpose. Today? Not so much. You will probably feel hot in the face and get this nasty tingling feeling. Breathe your way through it.

When it comes to conflict it's better to shake hands than make bruises. We all have conflicts with people. It is simply far too idealistic to think that we can all get along all of the time.

Some conflict is healthy. For example, if you are agreeable 100% of the time, suspect you have no spine nor your own thoughts and opinions. Either that or there is going to be one heck of a blowout someday in your future when all the stuff you've bottled up comes roaring out.

However, there are times where conflict can escalate. It is all too easy when in a conflict for the wrong words to be used, for voices to escalate, and some cases, for fists to start swinging.

Conflict can turn harmful within a bat of an eyelash because when we are in conflict, our blood is pumping, and we are often looking to be right, and spending so much time engaging in the conflict that we don't realize the long term effects it can cause.

Diffusing A Tense Situation

Back Off

Aggressive behavior may be a sign that a person is under extreme stress. The findings of a study published in the October 2004 issue of "Behavioral Neuroscience" suggest that the same hormones that respond to stress may also play a role in aggressive behavior. How you react to a person's behavior can help keep the situation from escalating out of control. Sometimes it is best just to back off and give the person some space. He may begin to think rationally again after an opportunity to calm down.

Avoid Confrontation

Many times you can defuse the anger by remaining calm and reasonable yourself. Speak in a low, soft tone. Keeping things in perspective offers both of you the chance to redirect your interaction. People can be influenced by the response they get from others. Empathize with the person instead of feeding into the anger or fueling it more. Be conscious of your own body language and keep it relaxed, because that is also part of the message you send.

Listen

Often a person uses aggression as a way to vent. Give the person a chance to talk out her feelings. She may calm down once she realizes that you are willing to listen. An article published in the Summer 2005 issue of "The New Social Worker" recommends being respectful and waiting until the person pauses before you talk. Try to find out what might be bothering her. Tell her you are sorry that she feels she has been treated unfairly. Sometimes people simply get frustrated; therefore, giving the person some attention may be enough to alleviate the anger.

Keep Your Own Composure

While some people do not overtly display aggressive hostility, they make their anger known in other ways. An individual may use nonverbal cues such as glaring, staring or rolling the eyes. A passive-aggressive person may use voice tone or sarcasm to get his message across. In this kind of situation, it might be best to ignore the behaviors and not take the bait. The American Psychological Association reminds us that although some degree of anger is both normal and healthy, anger that is allowed to get out of control can become destructive. Acknowledge the person's concerns and express your desire to help in any way you can. Remain calm and don't let the person know that his behavior is unsettling to you. You can think more clearly by keeping your composure. Overreacting may only trigger your own anger, sending the negative message that the other person is looking for.

Sensitive Parts Of The Body

If you get into a confrontation in a survival situation, you must accept the fact that it will not be a fair fight. Fair play only happens in tournaments and sporting events. In a survival situation, there are no rules. Many times the winner is the stronger of the two fighters.

But for older or very young people strength is not an option. A pressure point is nothing more than a sensitive area on the body that either causes pain, loss of muscle control, a reflex action, or a combination of those things. The idea is that a light strike or squeeze will be capable of temporarily disabling a stronger opponent, giving you time to either take evasive action, reach for a weapon, or run away.

We are going to discuss three that are not true pressure points, but are sensitive and vulnerable to all humans weak or strong. Thus, even a disabled person can bring down an assailant if these moves are executed properly. The main drawback to any of these moves we will discuss is you have to get close to your attacker.

Eyes

Eyes are far and away the most sensitive spot on the body for throwing your attacker completely off. A hit to the eye is always discomforting whatever the assailant's physical prowess. Our eyes are exposed and extremely vulnerable to a strike. Even closing them tightly is no defense since only a thin layer of skin covers them.

The best way to execute this move is with the index and middle finger held together. Contrary to the move seen in comedy movies and cartoons, they stabilize each other giving the blow more power.

Adam's Apple

Hitting an attacker here is guaranteed to produce a sputtering gag reflex at the minimum. If you're lucky, the attacker will start to choke. This move, accomplished with the web between the thumb and index finger, is effective against both sexes. More powerful victims can crush the wind pipe of their attacker.

Groin

Any male attacker will quickly turn his attention to other things beside hurting you, if you land a blow to this area. This one is as effective as an eye attack in buying you time to get away or draw a weapon. The best approach is the grab squeeze and twist maneuver, which even a disabled person can accomplish. The often picture knee to the groin is much easier for the attacker to defend against and therefore requires much more strength in the defender.

Other Defensive Moves

There are several other moves you can make to defend yourself if you are attacked. Biting has an element of surprise and can buy you the time to switch to offensive measures.

It is difficult to paint a good picture of the moves with words. These following links tell the story much better.

Tony Blauer Non- Violent posture http://www.youtube.com/watch?v=mSY5EKLD0_g
Senshido - Shredder <http://www.youtube.com/watch?v=v0-7-JQ0cds>
Keysi Fighting Method Defense or Crazy Monkey
Block <http://www.youtube.com/watch?v=XuAi6PzB76M> (similar)
Kelly Mccann Slap/ blitzkrieg attacks (bitch slap is the best) <http://www.youtube.com/watch?v=14d5sK0yl00>

Three Items You Can Legally Carry To Defend Yourself

Carrying guns in public is a controversial subject. The chances of getting a carry permit range from impossible to difficult depending on the state where you live. The average citizen is at a distinct disadvantage.

The most effective non-weapon you can buy for defense is a high lumen tactical flashlight. These send out a beam of light very similar to the new halogen headlights. You know how annoyingly bright these are as they approach you or in your rear view mirror. Imagine getting a shot of that directly in the eyes at close range. Stunning, blinding and almost painful....

Pepper spray is legal provided you take a class in most states. It is not the best option, because if you miss the face, you have lost the element of surprise. It does however provide the option of an immediately available second chance.

Short tactical batons are also good choices for self-defense. They do not require as much power to swing as the larger one. They require less of a follow through. Think of swinging a baseball bat. Once you start the swing, the motion carries you through the full swing. Like pulling the trigger on a gun, it is impossible to interrupt quickly. The short batons give you more maneuverability and do not leave you open to counter attacks for so long.

Build Up Your Perimeter

American homes are not very secure. Urban and suburban houses are right on the street. It is not easy to mount a defensive perimeter in these location. Semi rural areas ill benefit from setting up layers of defense. The intent is to dissuade someone from attempting to get into your home. Offering a series of obstacles before they reach your house may deter them altogether. At the very least, you will slow them down and give you valuable time to ready your defenses.

Think of it as peeling back the layers of an onion. Each layer offers an unpleasant or time consuming (therefore frustrating obstacle). There are four tiers to these layers :

- Early warning tells you who is coming and from where. This gives you time to decide the threat level.
- Physical barricade gives the would be intruder obstacles to surmount as he approaches. Again this gives you preparation time.
- Psychological deterrents force the incoming person to multi-task. Total focus and concentration is interrupted by questions on whether getting into your property is worth the effort.
- Deadly Force needs no explanation.

Early Warning

The best recommendation is a security camera system. Another good addition are motion sensor floodlights on all sides of your home. These require no esoteric tools to install. We do recommend you have a variety of tools both manual and power. Power tools need extra rechargeable batteries and some alternative method of charging them. In fact, your entire home should have a Plan B for energy.

Second best recommendation is a dog. Of course, if you hate animals this is not an option. Whether you have a dog or not, you can post a warning sign to the effect you do. Be prepared to warn would-be invaders that you are prepared to engage them up to, and including, deadly force if they cannot respect your perimeter. Some will see it as a challenge, others will realize that there are easier marks down the street, and will move on to the next.

If they get past your 'yard' defenses, securing the inside of your home against intrusion also gives you precious preparation time.

Physical Barriers

Physical barriers start at a simple and non-lethal level, like a normal fence or brick wall and can rise into the total extreme of booby-trapped ditches, and moats of feces, urine and rotting animal guts (You probably would hold off going there unless civilization had completely broken down).

Modify your fences with nasty surprises like boards studded with nails. In the desert, use a wheel barrow to cut down cactus and transport them back to your place. A thick patch of cactus will be an effective barrier, or even large tumble weeds strung together with some wire or zip-ties could waste a lot of the attacker's time.

Hay bales. If you are truly self contained then it makes sense at some level to have animals producing dairy and meat. It's two birds with one stone here. Hay bales feed your animals in a more effective way, can be bought in bulk cheaply, and can build a wall instantly that can even be made bulletproof with a few minor modifications. In a pinch, you could even set them on fire if a mob was approaching.

Psychological Deterrents

You remember the impact 9/11 had on the American psych. That is the power of a psychological deterrent. It's all about mind games. Overwhelm the senses and gain control. Sound, sight, and smell will all reverse an attacker's path if they are strong enough indicators of previous intruders' and their likelihood of death.

Sound

Sounds of suffering and distress may psychologically trigger avoidance responses in sane individuals. Just think of the millions music companies make every year selling spooky sound CDs. The sound to a shotgun being pumped is also up for consideration. Of course, this assumes you have a PA system.

Smells

We already mentioned the deterrent value of smell of bodily waste and rotting flesh.

Chemicals

Capsicum, the caustic ingredient in pepper spray, can easily be rigged to shoot at the detection of an intruder. This forces the intruder to ask what's next, if they are met at your gate by pepper spray? Most will move on to easier pickings.

Signs

We already mentioned signs warning of your dog or intruders will be shot, but use common sense. Threatening about biohazards and the like take away the element of surprise for your other preparations.

Best recommendations are a chain link fence with razor wire and cameras with motion detection. You can also hit another psychological hot button by running a dead animal across the wire leaving blood and bits of tissue. It can stop probably up to twenty people at a time for at least a few minutes while you prepare.

If These Fail...

Prepare for the worst. Be ready to use deadly force. If they have made it this far, then they are perhaps more equipped to deal with a threat than you are, and therefore you must be ready to end their life. Nothing can prepare you to take a life except knowing that this assailant will not hesitate to take yours and has aggressively used their skills to reach the outside of your home.

Around the house you should have hidden several last ditch weapons, and on you, you should have a shotgun with several rounds and a pistol. If these are not available, you should have some sort of easily maneuverable gun and a pistol. Know where your weapons are, know how to put distance between you and him, and know which areas of the house can afford good protection for you. Do what you can to avoid bringing the fight to your family's safe location.

We hope you set up a safe room to send your family into.

Use anything you can turn into a weapon if needed—a broom stick, rolled up magazine, or a rolling pin could work to deflect a knife attack or inflict a substantial blow to the face or neck area. Normal household items in the heat of the battle will prove their value far beyond their normal utility. Spend some time, really looking at the items in each room of your house and evaluating their use as weapons. The self-defense books in this course discuss the best places to attack that work for anyone whatever your physical health or age.

survival is the key. If you can't eliminate a threat, remove yourself from it. Ego and a wrecked home can be repaired, but you won't be able to come back to life. Do what you can to maintain your position, but don't stay and die if you can run away and survive.

Don't forget that mindset and preparation will be the biggest difference in whatever scenario you find yourself.

Make sure you utilize the four parts to perimeter protection: Early Warning Systems, Physical Barriers, Psychological Deterrents, and Deadly Force. This is a proven set of variables which are always effective.

Protect Yourself

The first thing your family should look at is the area in which you live. Is the area you live in prone to high crime rates? If the answer to this is yes, then you should consider moving as soon as you can. While this is certainly not a popular solution, it just might be the correct one. Even if your neighborhood is a nice middle class area, if you're near a sketchy area, that could lead to problems. As many countries across the world have shown in the past, when civil unrest boils over in depressed cities, the closest targets are the first targets.

Undoubtedly, this is not something most people would want to do. But you must remember that it's not just the poorest areas being affected by the financial crisis. Even in nice neighborhoods, many people are "underwater" with their homes. This means they owe more on their mortgage than the house is actually worth. Perhaps you've seen your home value drop in the past few years, like many others have. Are you waiting for the housing market to recover before selling your home? In the end it's up to you and your family, but with the economy so poor, the situation may get worse before it can get better. And while moving when your home value is not at its peak is unattractive, the alternative of living in an urban war zone is far worse.

If moving to a new area does seem like the right decision for your family, where should you relocate to? If you can afford to move to a different part of the country, studying areas with low crime rates is a good start. The FBI produces annual reports that may be read at their website. Many online sites provide analysis of the data and provide a list of the safest cities in the country. Just remember the FBI's warning about individual crime statistics sometimes leading to incorrect conclusions. It's best to look at more than just one source to come to a conclusion.

Many areas with a relatively high median income have low crime rates. But this can be a misleading statistic by itself. Ideally, you would want to find an area where most people in the area have a relatively consistent income. Think of it this way: If an area has citizens with low income spread in with those with a high income, if unrest boils over the situation could become the "haves" versus the "have nots". Another figure to take into consideration if you plan on moving is the area unemployment rate. This may make even cities with a lower median income a realistic possibility. When more people are gainfully employed, there is less of a need for crime. The citizens in a city like that

tend to be more respectful and lawful towards one another than in a city with high unemployment.



One choice that you might consider would be moving to the country, and away from densely populated areas. These types of areas are much less likely to be targeted by thieves, due to being away from the larger cities. The downside to these areas, if something does happen, you'll largely be dependent on only your family and yourself for protection. If this doesn't sound viable to you, there is another option. Before the housing market

crash, a new type of settlement was becoming popular. They are called the exurbs, basically suburbs that are farther away from a larger city than the standard suburbs. These settlements usually have decent sized populations, and would enable you to have prospective help if a worst case scenario developed. The major downside to these areas is that they are usually not too horribly far from a bigger city. This would make the area a viable target for criminals.

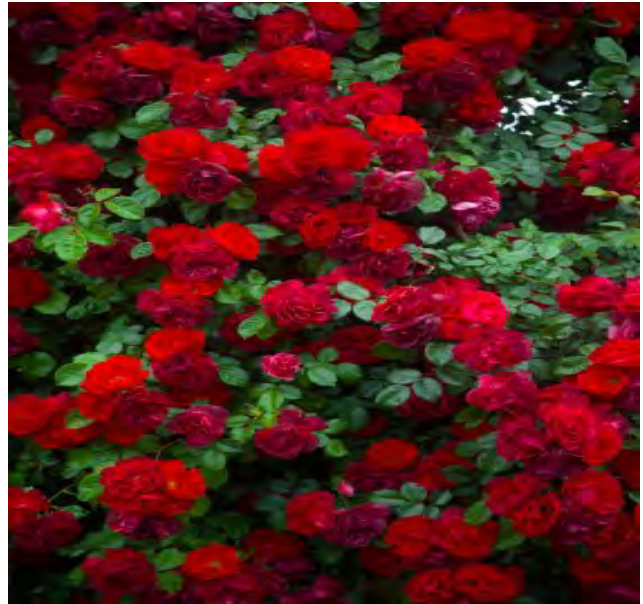
If relocation is a viable option for you, the choice of whether you wish to be around others in a time of crisis, or whether you believe you can do it yourself will be a key decision. Only you know what is right for you, after all.

Harden Your Home

Whether you decide relocating is in your best interest or not, there are steps you can take to "harden" your home, and make it a safer place. Thieves' traditional targets such as banks and stores have increased their security precautions. Presently, thieves look for easier opportunities. With many residences, they can just get in through the front door. No matter where you live, as crime escalates, you will need to make your home a more difficult target for thieves. You can take several steps to make your house both less attractive to thieves and easier to defend at the same time.

One thing you should check, regardless of whether you move or not, is the perimeter of the house. Any shrubbery close to your house should be cut down so that it doesn't reach up to your windowsill. Any taller plants or trees should be trimmed up leaving 3 feet from the ground to the foliage. Doing this makes it much more difficult for any potential thief finding an easy place to hide outside your home.

Another landscaping upgrade that you can make is to plant rose bushes or other thorny plants under your windows and in places where you want to stop movement. Of course, keep in mind the safety of the children in your life. Another strategy is to take advantage of the natural slope of your property and create terraces. Gardeners know this protects from water runoff damage and soil erosion water. The height you choice creates a choke point that is easier to defend against intruders. We recommend at least 2 feet high for vehicles and 3 feet high for intruders on foot.



A burglar will avoid the house with no bushes to hide in, security lighting and a German shepherd in the front yard. There are easier pickings down the street. You can easily spend hundreds of thousands of dollars upgrading doors, windows, walls, and roofs. If you can spend that kind of money for urban survival just move to a rural location full-time.

You are going to get affordable strategies and techniques that can help protect your family and your belongings now and inexpensive ways to beef things up quickly if you need to in a survival situation. Accept it, if someone is determined to get in or get you out most houses in the US are going to be hard to defend. European homes are built of concrete blocks or large stone. Not many houses in the US can withstand a few Molotov cocktails or a direct hit from any vehicle.

This is why you want attract the least amount of attention possible. That is also why we keep repeating that for now and especially in a disaster situation keep your mouth closed about your preparations, don't escalate conflicts, and don't get involved in fights just to fight. In an urban survival situation, it's important to blend in and stay as invisible as possible.

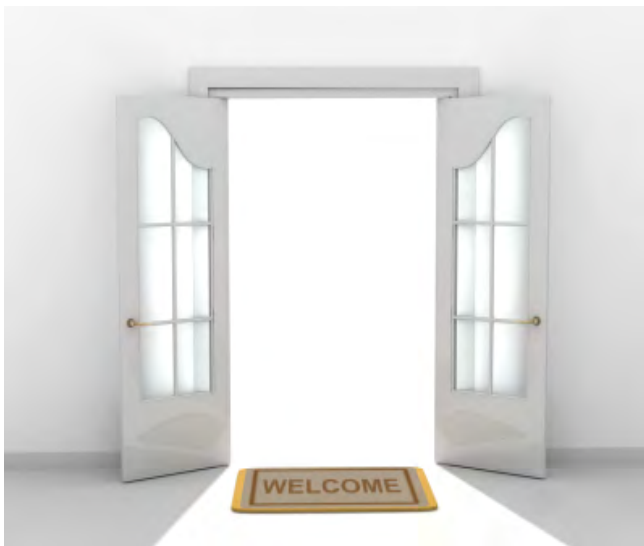
We're also going to cover things that you can do that won't be very noticeable to your neighbors. You want to deter potential burglars/looters, stop them if they attempt to force their way into your house. What you don't want to do is make visible changes that shout "I have something to steal!" We just want to make smart changes that will give us additional security without taking too much time or money.

Did you know a burglary occurs every 13 seconds in America? Not only that, 85% of the intruders are not professional criminals, which means they are inexperienced and more

likely to be desperate. During a crisis, desperation will be a given. Statistics show 30% of burglars enter through an unlocked door or window.

According to FBI statistics, 34% of burglars enter through the front door. Homes with visible signs of a security system are one-third less likely to be broken into. One word of warning though: Does this sound like you or someone you know? 41% of US homes with alarms did not even bother to arm their systems.

Whether you have an alarm or not, it's a good idea to get a lawn sign and some stickers from a local alarm company. Most burglars will avoid houses with alarm signs just in case. Like I mentioned, plenty of easier places right down the street.



American homes are just not constructed to be secure. Take a drive through your neighborhood and look at the entry doors. You'll see doors with glass in them; you'll see doors with glass sidelights flanking them. It is a wonder any of us keep intruders out ever. Look at the windows; some houses seem to have more glass than siding. Windows are great for living in your home, they let the light in and elevate your mood, but as you can tell from those statistics we mentioned, they make it very easy for someone to make an unwanted entry into your house.

A door from the garage to the interior of your house needs a good lock. Garages can be broken into after all. In some areas, burglars entering through garage doors account for as many as 40% of all burglaries. Remember, doors that only have locks on the doorknob are virtually worthless. Any criminal who wants to gain access to your home bad enough can easily break a lock like that by kicking it in. In fact, if you don't use them, all locks are worthless no matter how well manufactured they are.

Some survivalists, in the interests of security, take the unconventional step of replacing an exterior facing door so that it swings outwards. The reverse construction prevents normal efforts to get through the door. The down side in blizzard country is deep snow can prevent you from opening it to dig out. The same warning applies if your locale floods. Keep in mind if you need emergency aid and cannot open the door for the first responders they are going to have to tear your door out to get in. But isn't that the effect you're aiming at in the first place?

Urban dwellers in high crime areas have used Katy Bars for many decades. If you don't know what they are, you have probably seen them in a movie at some point. Even town gates in Europe used them for centuries to keep marauders or invaders out. In other words, they have stood the test of time and continue to be used. You can create these with two U shaped brackets big enough to hold a 2X4 or metal pipe long enough to span the width of your door, and some 3-3 ½" screws. In five minutes in a crisis, you can install them to the studs on both sides of your door and drop the board or pipe in the holders.

Remember you may not have electricity. You'll learn from the guide on power solutions in a crisis that the power tools' batteries could very well give out before you complete your last minute disaster tasks. Many popular tool batteries become almost worthless after a few short years of use. The guide will offer suggestions so you can come up with a plan to use your tools if you don't have any power.

Security lighting outside your home is worth the expense. Cover the probable areas an intruder would take to reach your house with motion detector security lighting. Technology has advanced enough on these lights that you can even set them up to come on at dusk and get brighter if the motion detector is triggered. Affordable solar powered security lights are dimmer than the conventional wired ones but don't become worthless when your power goes out. It is a trade-off decision.

Windows should not be ignored either, as these are often the easiest way for criminals to gain access to your house. The first thing you should check are the window locks. If these don't work, then gaining entry into your house will be extremely easy for potential thieves. This is all about solutions that won't make your house stand out but increase security now and in a crisis.

Sheets of plywood will protect your windows, but the downside is you can no longer see what is coming. The alternatives are more expensive and take time to implement. So, my advice is to get the plywood now and work towards one of the other options that still allow visibility. Implementing something now versus weeks or months down the road wins out every time.



If you have ever traveled to Europe, you will be familiar with the rolling shutters. They are controlled from the inside and allow you to adjust the light from full to none. New ones are manufactured from aluminum, will protect your windows, increase the R-value

of your window openings. The fact that they are more noticeable is balanced by their strength. You might even be able to take an energy credit on your income taxes.

Security film is similar to window tint. What it does is keep a broken window in place and keeps a thief out. Unlike window tint however, you will need professional installation. The most common type runs about \$5 and \$10 per square foot. It will stand up to weather hazards like falling branches or human efforts like thrown rocks.

If you live in hurricane country, you know all about storm windows. For the rest of you, they contain layers of tempered glass and dense plastic. They stand up to flying debris up to 100 mph. Like the film option, the glass still breaks but remains intact as a barrier to entry.

There are other even more expensive options. A quick look at any home improvement store website will give you all further information including the Cadillac Lexan. It is a polycarbonate that is bullet resistant or bullet proof, depending on the thickness. Besides being expensive, it has other drawbacks that you should investigate before spending part of your survival budget on this high priced option.

Of course, you have to make the decision on what you are willing to live with. The security of your home is tied to the weakest point. You could spend your life and a fortune constantly upgrading.

Turning your house into a fortress is pointless without the necessities for survival like food and water. You can quickly enter the realm of obsession here. It makes more sense to spend your money on an alarm, big dogs that bark, and training.

If remodeling is in your future, consider replacing your siding with concrete fiberboard sidings. Besides making your house more secure, it is fireproof and lasts multiple generations.

A Bump In The Night

Setting up defenses for your house is the first step for home safety. But what would happen if all the deterrents you have in place don't work, and someone breaks into your house anyways? Well if you aren't prepared, things can go bad really fast. This is why you should have a plan in place with your family, so if alarms go off in the middle of the night or you hear the proverbial bump in the night, everyone has some pre-preparation. Setting up a plan for your family in case of such an emergency is a good idea, and once you do, running periodic drills to keep the plan fresh in everyone's mind is prudent.

While many people may consider this advice controversial, having a firearm present could be the difference between life and death. Studies have proven that owning a firearm deters crime. All of your family of proper age should know where the firearm is located, and how to use it effectively. Whether you prefer a hand gun or a shotgun, proper training is an excellent idea.



Most people don't sleep with equipment that would be useful for an emergency right next to them. Having the proper emergency materials close if someone gets in your home in the night tips the scales in your favor. Having an emergency bag, similar to your bug out bag, prepared in case of an emergency is a smart move. Ideally, the bag will be close to you and easy to find and grab in the dark. Ideal items to have in any emergency bag would be a cell phone, a couple of flashlights, and extra ammo for your weapon of choice. Any items you think you need in case you need to vacate the house quickly should also be in it including an extra set of keys for any deadbolt doors in the house.

Conclusions

Many US citizens' financial situations are falling further into decline, and foreclosures seem to be everywhere. Combine this with the possibility of drastic entitlement cuts that would cripple many families' incomes, and the threat of severe spikes in crime is real. With budgetary cuts hammering police stations nationwide, their effectiveness will surely suffer. While the police will surely do their best to help you in case of an emergency, fully relying on them in such dire times is unwise. The intelligent course of action is to prepare yourself, and be ready for any eventuality that could affect your entire family. If the worst case scenario is realized, the families who will make it through easiest will be those who are prepared for nearly anything. And, if the US can find a way out of the depressing times it's facing, being prepared for the worst is still a prudent idea. Even in the best of times, criminals are still around and looking for opportunities to capitalize on someone else's hard work.

You will notice that we did not go into self-defense training. This type of training is beneficial on many levels including fitness and mindset. The subject is just too complex

for this guide because of the myriad options. Our intent is to keep them out in the first place, so hand to hand or more extreme confrontations are unnecessary.

Again, if it is at all possible, you want to avoid armed encounters, especially inside most American homes. If conditions where you live deteriorate to the point where armed violence is routine, you may want to relocate. Either leave the city or move your family and team to an industrial/warehouse building or a stone/masonry house on a multi-acre lot. We have gone over many of the reasons why these are more defensible.

Introduction

Many Americans are complacent about the comfortable life they live. Until something happens, it never occurs to them that everything they took for granted can change in an instant. During any interview with almost every disaster survivor, sooner or later they will make a statement to the effect, "I never thought it could happen here or to me."

No one likes thinking about the myriad of things that can become life changing events. But as the saying goes....If you do not learn from history, you are doomed to repeat it. History, whether ancient or current, teaches the best way to protect the people and things that are dear to you is preparation.

No one thinks the Boy or Girl Scout organizations are paranoid whack jobs because their motto is "Be Prepared."



Planning for the unexpected breeds confidence rather than fear. As you read this guide, you will see what we mean by that statement. By taking a few steps consistently over time, you can plan for the unexpected and be ready for almost anything that might happen.

Hoarding Food Is A Natural Instinct

The Western lifestyle is one of convenience. Everything is fast and easy. Food is plentiful and available 24/7. You can get whatever fast food you desire day or night, even while pumping gas. This has changed the way many Americans shop and prepare meals. Often, what passes for a pantry in an American home has very little food on the shelf. Refrigerators may only have a few items—condiments etc. Freezers have prepackaged quick foods or ice cream. Many Americans stop at the store several times a week; some even pick up their meal preparations daily.

There's certainly nothing wrong with that as long as you are aware that events could change it all in a matter of days. Were you aware that grocery stores only keep about two to three day's worth of items on their shelves?

This is especially true since the recent recession. All stores are in a balancing act to keep their inventory large enough to meet **normal** demand but small enough to be profitable. Remember all those items on the shelf represent many thousands of dollars the store has spent up front. The key word there is normal demand; what we are talking about is an abnormal sometimes sudden event.

So the next time you go to the grocery store look at the items on the shelves. Take a look at how many there really are there. It looks like the shelves are full, but if you take a closer look you will see that first impressions are deceptive. In fact, whether you like big box stores or not, this trend is even more noticeable there because they often store their extra inventory on pallets on racks above the items that are accessible. If you wheel your cart around and look up...I can guarantee you will see far more non-food merchandise than food pallets. It is shocking when you think about this fact in terms of what follows.



Now, imagine if everyone on your block came to the store at the same time and bought one of that item. How about if your neighborhood did the same thing? Do you begin to see the problem here? How long do you think the items would last?

It hasn't always been this way.

Before we had all these modern conveniences, humans lived a feast or famine lifestyle. Food was plentiful in the spring and summer months and scarce when winter approached. Both ancient peoples and animals migrated over long distances to hunting grounds where the food supplies were better at certain times of the year. Birds still fly south for the winter to warmer climes where food is readily available.

Humans have a physiological ability to adapt their metabolism to low calorie diets. This adaptation functions to reduce the calories needed for survival during times of famine (poor food quality and quantity). The body reduces the amount of calories needed to function, conserving its fat stores to survive the famine.

Each time there is a famine, less and less fat will be lost as the body improves its ability to conserve the fat. With every feast, the body increases its ability to store fat and the amount of fat stored is increased. This adaptation occurs much easier and faster in women than it does men.

If you have ever tried to lose weight, you know the truth of this. Food hoarding is a common issue displayed by foster-adoptive children. Food hoarding is directly

connected to significant neglect that the child has experienced in consistently having their basic needs for life sustaining food denied or inadequately met.

Animals still prepare for this natural cycle in the food chain. Squirrels collect and bury nuts so they have food to get them through the winter. Ants do the same. Bears and other animals eat to store up fat for the winter and they live off of it while they hibernate.

Believe it or not, even some species of birds do not migrate. They lay up a supply of seeds and nuts against the winter just like larger mammals do.

Food storage is not a new idea. According to the Bible, Joseph helped Egypt put away food for the seven years of famine that would follow their seven years of plenty. That act fed his brothers and others when the table was empty. Certain methods evolved to extend the time that food was readily available.

We will take a brief look at a few of these methods and how they can be helpful to you as you prepare your stockpile of survival items.

Drying

Probably one of the oldest methods of food preservation is drying. Drying removes water from the food item, which retards the growth of the microorganisms that cause food to spoil. Ancient peoples used the sun and wind to dry various kinds of food. Evaporation is accomplished by many means air, sun, wind drying or smoking. Bacteria, yeasts and molds need the water in the food to grow, and drying effectively prevents them from surviving in the food.

You are probably most familiar with dried foods like beef jerky or dried grapes, which become raisins or dried plums, which become prunes. One drawback to drying from a health standpoint is the antioxidants are depleted with the water.

You may not know this, but for centuries the main staple of the European diet for protein was dried cod. Today, you can buy an electric food dehydrator, which gives you faster and more consistent end results, but solar powered dehydrators make more sense if you are looking for sustainability. Obviously, during certain crises, you may not have electricity.



Canning

Canning is a familiar pastime among rural gardening families. The food items are processed in airtight containers providing foods that normally spoil within days a shelf life of between a year and five.

The method dates from the late 1700's and the safety and viability was proven in 1806 with tests on the French Navy. The whole idea grew out of the need to feed armies during a war. Wars were limited to summer and autumn not just because of the weather, but because there were plentiful regular supplies of quality food. Remember, at that time a war might last 10 -20 years and a naval voyage might take years as well. Obviously, there was very little opportunity to replenish supplies from a boat.

The safety point of view, foods with low acidity (a pH more than 4.6) need sterilization under high temperature (116-130 °C). To achieve temperatures above the boiling point requires the use of a pressure cooker. Foods that must be pressure canned include most vegetables, meat, seafood, poultry, and dairy products. The only foods that may be safely canned in an ordinary boiling water bath are highly acidic ones with a pH below 4.6 such as fruits, pickled vegetables, or other foods to which acidic additives have been added.



Provided you have the equipment, both of these methods can be accomplished with alternative heat sources. My relatives routinely did much of their summer canning in the backyard on a camp stove or even over an open flame using the BBQ pit.

Canned goods and canning supplies sell particularly well in times of recession due to the tendency of financially stressed individuals to engage in cocooning, a term used to describe the phenomenon in which people actively avoid straying from their houses. In theory, if you stay home, you won't spend money that you don't have.

During the recession in February 2009, there was an 11.5% rise in sales of canning-related items the United States. This suggests that consumers are trying to increase the shelf life of their food purchases so they don't have to head back to the store. A segment of the population returned to the habits that their parents and grandparents had. They're canning and freezing products just so they can save a few bucks.



There's an interesting psychological effect that developed because of the recession. In general, people are buying more food to prepare at home, a function of their eating out less often at restaurants, which failed right and left during the financial crisis. Other products which saw their market share surge during the recession were baking mixes and supplies, flour and dough products; people were making brownies instead

of buying them. Fresh-meat sales rose 7.3%, vegetables and dry grains were up 5.5%, dry pasta 4.4% and cheese 3.1%. Wine and liquor were also up. People weren't heading out for alcohol, but they still wanted to drink at home. In bleak time, self-medication is comes back into style.

I hope you paid close attention to the type of items mentioned there because they are all on the list of food items to hoard for survival or stockpile for barter.

The philosophy out there during the recession seemed to be 'If you can't eat it, you don't need it.' It permeated every consumer segment. People began to hunker down, no matter what their socioeconomic status. So start stocking your shelves.

Pickling

You may have noticed the above mentioned acidity as a crucial factor in deciding which method of canning to use. That leads us to the subject of pickling. Pickling doesn't just pertain to cucumbers, you can pickle meats, eggs and many other kinds of vegetables.

Salting, especially of meat, is an ancient preservation technique. The salt draws out moisture and creates an environment inhospitable to bacteria. If salted in cold weather (so that the meat does not spoil while the salt has time to take effect), salted meat can last for years.

Salting was used to preserve meat up through the middle of the last century until refrigeration and freezing was widely available.

Salting is still used to create salt-cured "country ham" found widely in the southern United States, dried beef (which you can buy in jars at most grocery stores), and corned beef and pastrami, which are made by soaking beef in a 10-percent salt water brine for several weeks.

Pickling uses the preservative qualities of **salt** combined with the preservative qualities of **acid**, such as acetic acid (vinegar).

Where Can I Buy This Stuff?

Regular food staples from the grocery store will last about a year. Sooner or later though, you will probably decide you want some long-term storage food items. We offer a few tips on where to find these items.

The Mormons from the Church of Latter Day Saints practice food storage as a part of their beliefs. Most church districts have their own canning center. The church elders decide whether to make items from the canning center to those who are not a part of the church. Look into whether there is a canning center in your area where you can buy canned goods. If so, you can buy basics like wheat, beans, and flour in bulk. You will pay much less for these staples here, than elsewhere.

Mormon's are encouraged to have a years' supply of their needs - food, fuel, clothing - and some monetary reserves as well. The church teaches self-reliance.

The storage principle is not limited to economic recessions. You cannot predict the source of adversity (job loss, disability, natural disaster, and so on), so preparations should be broad and cover as many 'what ifs?' as you can imagine.

If you get into the habit of preparing you can be ready to withstand all kinds of problems. Think about it - the person whose character has been tempered to avoid excess, strengthen reserves, and live in moderation, is ultimately the kind of person that you probably want for a spouse, an employer, a neighbor.

You can hold up under all sorts of adversity if you do the right things ahead of time.



This course is intended to give you a plan to follow. You can pick and chose, but if you follow along with this volume and the others you will be as prepared as anyone.

Camping and Wilderness Stores often carry freeze dried foods and MREs. Before purchasing in this type of store, be sure to investigate the prices of similar items online.

It is possible to find things on sale sometimes so you might want to join their email list for sale notifications.

Online Survival Stores specialize in emergency preparedness and food items with very long shelf lives. Comparison shopping is essential to find the best prices; you may also find some online vendors that offer free shipping.

You may see MREs and other foods intended for long-term storage on eBay or Craigslist. No matter how good a deal they may be, you have no idea if they were stored properly. Improper storage can cause spoilage, as you will learn in more detail later.

What Should I Buy?

Often when you see videos of panic buying on the TV news, you will see bread, milk, and bags of ice in shopping carts. As you'll see from the explanations and items listed below, these certainly are not the wisest choices. How long does ice and milk last without electrical power?

The problem with the above choices is those buyers do not have the survivalist mindset. They are not thinking beyond a day or two. Remember, it takes just as much effort to be prepared for the long haul as the short-term. No one ever knows how long a crisis will last or if there could be further events that escalate the situation, which prolongs the effects and expands the areas affected.

Eventually, people will figure out milk and bread is not going to cut it. That is when the real panic will set in.

Water

While some of the items on this list are not absolute necessities, water is something that is essential to survival. Water is always one of the first items to go when there's a pending disaster or a crisis, so you want to keep water on hand. The Federal Emergency Management Agency (FEMA) suggests having enough food and water on hand to last for two weeks. Water, however, is something that you will absolutely need. If the crisis lasts two weeks, you'll need two week's worth of water. If the crisis lasts two months, you'll need two months' worth of water.

Water is so crucial to survival that there is a whole section devoted to it later in this guide. Storing enough water for a long term crisis can be difficult. For that reason it is important to have plans in place that allow you to collect water. As part of your emergency preparedness, you should consider rainwater and underground water collection systems. You should also purchase very high quality water filters. Making such plans could truly mean the difference between life and death should circumstances make it impossible to get drinkable water any other way. The details of all of this are covered later.

Dried Food Staples

Pasta is filling, nutritious and has a long shelf life. It is easy to store and, if needed, can be taken with you should you need to leave your home. Another plus is that pasta is fairly inexpensive, so it is an item that is easy to add to your storage even if you are on a tight budget. Provides carbohydrates needed for a more active daily life.

Rice is a staple of any good emergency food storage; it has a variety of cooking uses, and steaming rice can be done on virtually any type of stove. Uncooked rice has a very long shelf-life when properly stored.

Instant Rice is convenient. With a little boiling water and three to five minutes of time, your rice will be ready.

Beans are known to be one of the best all-round survival foods. They're high in protein, and if sealed in food-grade buckets, they'll keep for up to ten years. Make sure to store them in a cool, dry, dark location. All dry beans are good to store; black beans, red beans, pinto beans, lentils, etc. You can sprout them (the exception is kidney beans which are toxic) for added nutrition and anti-oxidants.

Grains are an important part of any food storage. Barrels of wheat from ancient Greece were found that were still good. Of course, proper storage is key, but grains in general have a very long shelf life. They are very nutritious and can be used in baking, made into cereals and used in a variety of other ways. Shortly after a crisis, or anytime a potential crisis is looming, sellers of whole grains often sell out and/or the prices shoot up. Buy now before the rush is on.

Ramen Noodles are lightweight, cheap, have a long shelf life and are quite filling. On the down side, they are full of sodium. That is not necessarily a bad thing because the added salt will help you retain water during your post-disaster exertions. They are quick and easy to prepare.

Canned Foods

Canned soups taste good, can be prepared on any type of stove and have a long shelf life. It is easy to store a variety of flavors and many of the soups are filling and provide a good amount of nutrition.

Canned Veggies can be purchased or you can grow your own. Either way, these are a staple in any good food storage. You need the nutrition that vegetables provide, yet getting fresh vegetables can be very difficult during a time of crisis. Remember, if you do not have a garden, now is a good time to start one. This will provide you with items that you will be able to use in canning and will also provide a renewable source of food.

Canned Fruit will be a lifesaver if you have children. Coming by fresh fruits may be nearly impossible during certain types of crisis situations. Something as simple as a truck driver's strike could make it difficult to get fresh fruit in many parts of the country. Canned fruit has a good shelf life, is easy to store and requires no preparation.

Canned Meats might not be your first choice, but it is a great option when you want to store meat for the long term. Canned roast beef, ham and chicken can be heated on any type of stove and then used in a variety of filling and nutritious dishes.

Pickles

Pickles made from cucumbers are probably the first thing that comes to mind, but you can pickle just about anything including meat, vegetables and eggs. You can certainly buy pickled items at the grocery store, but it is also very easy to do it yourself. Experiment with different spices so that you can have a variety of flavors in your stockpile.

Salsa is a great food storage addition because it has a long shelf life, and it is a nutritious food made from vegetables. Use salsa to give some flavor to powdered eggs or add to rice and canned chicken for a delicious meal.

Beef Jerky has an extremely long shelf life, is easy to store and carry, and tastes delicious. You can buy beef jerky or you can learn to make your own. This is one of the most survival-friendly foods around. For a healthier version, you can substitute turkey for beef.

Dried Fruits have a long shelf life, are easy to store, and they taste great. Dried fruits can be used in creating trail mixes and other snacks and are great on cereals as well.

Nuts generally have a long shelf life and are a comfort food item as well as being nutritious. You can also use nuts along with grains and dried fruits to make a delicious trail mix.

Cooking Essentials

Salt has an extremely long shelf life, is very easy to store and is an important part of baking and cooking most meals. Salt has other uses besides being a delicious addition to many foods. It can also increase the shelf life of vegetables and can be used to clean up spills without the need to use potentially harmful chemicals.

Cooking Oil is necessary in cooking and you'll need it if you are cooking over an open flame to avoid scorching your food.

Baking Essentials including flour, powdered eggs, sugar, baking soda and baking powder, will not last long with a crisis on the way. These items are vital for preparing the most basic foods, such as breads. When people realize there is a crisis, they will know that these basic staples will soon be hard to find and will quickly empty the shelves.

Spices can help turn your emergency meals from bland to delicious. Spices typically store well and have a long shelf life. In addition to adding some flavor to your meals, some spices can help to keep your family healthy. For example, including some garlic in your diet each day can boost your immune system. Staying healthy during a crisis is more important than ever, because getting medicine or seeing a doctor may be more difficult.

Honey never goes bad if properly stored. It can be used in baking and in sweetening cereals.

Liquids

Milk (condensed or powdered) is a staple in cooking and baking and you'll need it if you have cereal in your storage. Of course, you will not be able to keep a supply of fresh milk on hand, but condensed and powdered milk both store easily, have a long shelf life (powdered milk has a longer shelf life than condensed milk) and can be used for cooking, baking and drinking.

Coffee will sell out quickly but, since it is not considered essential by many, restocking it will not be a priority. If you are a coffee addict – or just enjoy a cup with breakfast – keep a supply on hand.

Alcohol on this list may surprise you, but you should include alcohol in your food storage even if you don't drink. Jack Daniels is a great choice. In addition to being a bit of a stress reliever, it can also be used for medicinal purposes, such as cauterizing wounds and relieving pain. It is also a wonderful bartering item.

Sports Drinks are a great source of energy. If you are working outside, especially in the heat, your body loses electrolytes which can be replaced with sport's drinks.

Juice Powders often contain vitamin C. Mix with water and you'll have a healthy and delicious drink.

Protein Drinks can provide you with the nutrition that you need to get by if you can't get a full meal. These drink mixes usually have a very long shelf life and come in a variety of flavors.

Coconut Water is low in calories, has no fat, and minimal sugar compared to other juices. It is an excellent rehydrater, and contains the same five electrolytes found in your blood. Gatorade only has two. It has even been used intravenously in medical emergencies when other hydration fluids were unavailable.

Comfort Food

Peanut Butter is relatively cheap, easy to store, has a long shelf life, is nutritious and filling and – and important bonus – most kids love it!

Long lasting treats (PopTarts etc...) Some snack foods have a long shelf life. While the myth that Twinkies (RIP) will last for years is just that, a myth, these type of items do last longer than most baked goods. Other snacks, such as Pop Tarts have a shelf life of several months or even a couple of years. While these items are not necessary to survival, including comfort items in your food storage is important. Yes, such comfort items will sell out quickly after a crisis; imagine how many kids (and adults) love junk food.

Hard Candies have a good shelf life, are easy to store and can provide a quick burst of energy. They are also a nice treat to keep in your storage. Hard candy can easily be brought with you should you need to evacuate.

Popcorn is a food that will disappear quickly for a number of reasons. It is a tasty treat that is not only healthy, but is a comfort food for kids. Because it has a long shelf life

and is very easy to store and prepare, it makes sense to include a supply of popcorn in your food storage.

Crackers are a great snack, store well and many types have a very long shelf life. Choose whole grain crackers whenever possible.

Cereal is easy to prepare, has a fairly long shelf life and is a quick and easy meal that your kids will eat without a fuss. You will want to choose nutritious cereals rather than those that are heavy on the sugar.

Power Bars usually have a long shelf and make a good, nutritious snack. It is best to avoid bars that are chocolate covered. These will not store well and, obviously, the chocolate will melt quickly in the heat.

Dehydrated Canned Entrees are a good addition to your food storage, but should not make up the majority of your food storage. These are meals that have an extremely long shelf life and all you need to prepare them is some hot water.

Fresh Fruit is another entry that may surprise you. Grocery stores get fresh produce delivered on a daily basis. If the supply chain is interrupted, there will be none. While you cannot store fresh fruit for the long term, it will be nice to have some during the first few days of the crisis before you have to start using your dried and canned fruits.

Specialty Needs

Baby Food/Special Needs Food Items are likely to be gone from the shelves within a few hours. This is of particular concern because, obviously, these items are very important. Having a good supply of such items is absolutely essential.

Pet Food If you don't have pet food on hand, you will have no other choice than to share your food supplies with your pet. Remember, after a crisis, everyone will be clamoring to get the items that they feel are important, and pet food is high on the list. Let's be honest, for the vast majority of us, our pets are like our children. You don't want your four-legged kids to starve any more than your human ones. Many types of pet food have a long shelf life, so keep a good supply on hand.

Another great addition might not necessarily sell out quickly, but if the more Americans knew the benefits of this ancient seed it would likely fly off the shelf. The Amaranth seed can grow with very little water, is better for you nutritionally than most store bought cereals. It also has more amino acids than an egg. Consider adding a supply of Amaranth seed to your emergency stockpile.

I Can't Afford This...

Those who survive in trying times and difficult situations have certain traits in common. Not everyone has them, but you can learn them if you will make the effort. A study of behavior during times of crisis revealed 10% of the population became leaders. They handled the situation without hysteria or excess emotion. They instinctively seemed to know exactly what to do.

80% of those in the study were paralyzed in disbelief. This was the largest group and they had no idea what to do and wandered aimlessly waiting for someone to take charge. The last 10% totally lost it and went off the deep end. They never were able to come to grips with the situation.

So, which group do you think is more likely to survive? The ideal is to be one of the leaders because they have the highest likelihood of survival. You may not have the natural instincts of a leader, but you can learn to control your fear and emotions as well as the steps necessary to survive nearly any crisis.

Again, this goes back to preparations. The more circumstances you prepare for mentally, physically, and assembling supplies, the more confidence you will have when something happens. You will not find yourself overwhelmed and wandering aimlessly; you will be the one taking action to care for your family and others.

Give it a little thought and take these simple steps that follow to prepare. You and your family are depending on each other. You are the first responder; assemble the basics for living through the weeks of the crisis; do not leave your survival to chance or luck.



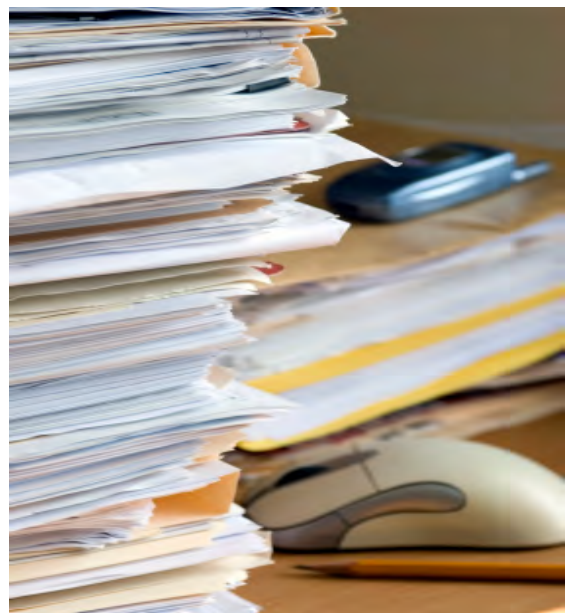
These are not scare tactics. This is the smart thing to do so that your family will survive. In fact, you will have plenty of other things to worry about. If you prepare today, you can concentrate on keeping yourself and your family safe.

Lots of people think they cannot afford to stockpile the supplies and equipment necessary to survive an emergency. Of course, it would be nice to be able to order everything you might need in one fell swoop. That's unrealistic for the average person.

So begin in small ways. Small manageable purchases over time really add up eventually. Most families have a change jar; you throw your pocket change in it at night. It is surprising how quick it fills up. The same can happen with your emergency supply stockpile when you buy small amounts over time.

Some very important preparations will not cost you a dime. You are going to continue to need your essential paperwork. If you have to leave your home, you need to take those papers with you. These papers might include: forms of identification, insurance papers, medical records and prescriptions, proof of ownership for vehicles, houses etc.

Of course, many people have no idea where these papers are right now. If you are one of them, the first step is to collect them or request copies. Think of it as part of your estate planning. You will need a suitable container for these papers. A safe is fine for home storage, but it is not portable. An inexpensive item that fits the need to grab and go is an ammunition case. It offers portability and protection.



Another affordable step is a bug out bag. This is a cache of items packed and ready to go if you need to flee your home for a few days. For example, you might need to evacuate because of a fire or hurricane. Complete lists and suggestion are discussed later in this volume.

You probably have many of these items already in your home. Without much of an investment, you have crossed two crucial things off your 'to do' list for emergency preparedness.

Store it where you can grab it at a moment's notice any time. Many leave it in their car trunk. If possible, you might consider building a second kit to leave at the office.

Budget Hoarding

The next step is to collect both non-food and food supplies. The least painful way is to buy one or two extra items every time you go to the grocery store. If you are consistent, your budget will not suffer and you will have a substantial stockpile before you know it. Some additional strategies of assembling supplies on a shoestring budget follow.

Keep in mind that it is not necessary to buy name brands of food or other items. Very often, the generic brands are just as good as the name brands. In fact, in many cases they are made in the same factories using the same ingredients and the only difference is a label.

We already mentioned canning and drying store bought food or surplus from your garden. These are quick ways to build your stockpile very inexpensively. We will recommend raising your own vegetables as part of your survival strategy anyway. You enjoy your fresh vegetables, but then you hold some of it back and put it up in canning jars. Of course, the more you can, the fewer items you have to purchase. The only extra expense is the jars and closures. But again, if you buy them over time, it does not have to be a financial hardship.

If you have zero extra money to spend on emergency food supplies, you might be able to get canned vegetables from a local food bank or church pantry program.

Coupons

Coupons can soften the blow of adding to your emergency stockpile. Yes, yes...we hear you--On the surface, they look like more trouble than they are worth to cut and store them. Yet, as in the example we mentioned before about how quickly the family change jar fills up, every little bit does add up.

Coupons are a double way to save. Using the ones from the Sunday circular and weekly food section, you can shave money off your weekly grocery purchases, which can go towards the extra items you buy for your stockpile. Those items also get discounted with the coupons you save or print out from online sites.

3 Extra A Week

When you go shopping buy 1-3 extra items every trip. Yes, it will add a couple of dollars to each trip, but some of that is softened by couponing. If you take the time to look at your food ads that come in your junk mail, you can also buy supplies as they are featured in weekly/seasonal sales.

Big Box Stores

I'll bet you did not know that Costco and many other warehouse stores have survival kits of dehydrated meals. They come in barrels with a long shelf life. If you have the funds (approximately \$85.00 per person for a month of food), you can make a fast start in an hour.

It is important to start now. As you saw above, the way to soften the effect of the extra expense on your budget is to collect your supplies over time. The sooner you start the more time you potentially have to build your stockpile. In an emergency or impending crisis, crucial items sell out quickly. Not only does food sell out quickly, when a crisis is imminent, some stores raise their prices. Price gouging is illegal but that does not prevent stores from profiting from the panic buying behavior.

Shelf Life And Storage

Why should you have some perishables?

In the first few days, fresh fruit, vegetables, and meat give the illusion of normalcy and provide sorely needed comfort.

Bartering will become a new skill for you. All of these items will be easy to trade and others, who are not as well prepared as you, will want them.

If you have fresh fruit and vegetables, you can take the time to can them before they spoil. If you have a garden, this can be an ongoing activity.

A food cellar is a good place to keep your perishable. If you do not have a basement, you might consider building a cellar as a separate structure. This assumes you have the room on your property.

What Shelf Life Really Means

Items you buy at the store often have a best used by or sell by date stamp. This is not the shelf life of the item. In proper storage conditions, food lasts much longer than these recommended dates.

MREs, dehydrated foods, specialty items, and canned goods can last for years. If the cans or pouches have no dates, call the manufacturer or the survival provisions company you bought them from to determine their shelf life.

Many survival sites provide extensive information about the length of time their products remain nutritious and edible. The terms are explained as follows:

- Best used by means the amount of time the product will keep its taste and nutritional value. The date does not mean the product spoils then or is inedible.

- Freeze dried and dehydrated foods can have a shelf life of between 25 and 30 years. Of course, proper storage conditions determine whether you will get maximum product life.
- Minerals and carbohydrates do not deteriorate over time. Proteins are affected by long storage quickest. Vitamins may leech out of the food if it is improperly stored. Fat can acquire an unpleasant taste.
- Expiration dates do not always mean food has spoiled. On the flip side, just because the date is still in the future is not a guarantee that the food has not spoiled either. You must learn to recognize whether food is bad. We are very far removed from the wisdom of our grandparents. A funny smell or mold means it goes in the trash.
- Proper food storage greatly increases the period of time your food supplies will remain useable.

What Affects Shelf Life?

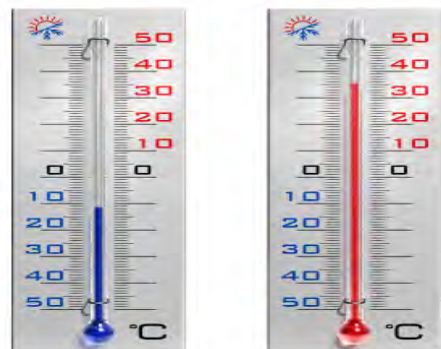
Four factors will influence product life:

Temperature is vital. The colder the room is the better for your supplies--not freezing but room temperature or lower. Avoid extreme temperature swings. If you cannot meet both of these requirements for the storage space, do not store your food supplies there.

Light affects many elements of food. Proteins, vitamins and fats are susceptible to changes when exposed to light. The packaging may take care of this problem for you. If not, try to store the item in a cupboard or pantry away from bright light.

Oxygen can promote the growth of microorganisms in your supplies. Insects also can hatch out. Fats colors and vitamins experience changes when exposed to oxygen.

Moisture also encourages the growth of microorganisms. It also causes chemical reactions that can cause your supplies to spoil.



Controlling those four elements will prolong the life of your food stockpile. You can rest assured that all your items are just as fresh and wholesome as the day you brought them home and put them on the shelf.

You will not have to worry about the packaging of many of the items you buy to store for survival. Nevertheless, it will be necessary for you to repackage some of the foods you intend to store.

Containers

The cans food comes in from the store are familiar to everyone, but there is one thing a surprising number of people do not have in their homes. A manual or hand can-opener. This is a **critical** piece of equipment, and no survival hoard is complete without one.

I'm going to share a couple of anecdotal examples why and you'll find you agree. One is a real life example and one sprang from the imagination of a gifted animator.

There is a classic cartoon from the 1960's of a cat that gets left behind when his family leaves on a vacation. He is in a panic at first until he sees the pantry shelves are well stocked with cans of cat food.

However, the merriment ensues when he enters panic mode again while he frantically searches every drawer in the kitchen and cannot find a can opener. The balance of the cartoons is his attempts to open the cans in the absence of this crucial tool. Without power your family could be in the same position as the cat.

The second example comes from the recent events surrounding super storm Sandy. One FEMA representative said that while they received donations of millions of cans of food; very few thought to include hand can openers. The cans were useless to storm survivors without the means to open them.

When you buy specialty items in cans for long-term storage to stockpile, you need to know your manufacturer. These types of food should have oxygen absorbers in each can when sealed to kill organisms.

Five Gallon Buckets are an excellent method to store bulk foods. Flour, pasta, beans all need to be placed in a different container for long term storage. The packaging from the store allows bug infestations and moisture damage. Below, you will find a good method to protect your bulk foods from being ruined.

- Put a Mylar liner inside the bucket.
- Put in an oxygen absorber and fill the bucket one quarter full.
- Add another oxygen absorber. Alternate filling and adding absorbers until full (3-4 recommended per 5 gallon container).
- Seal the liner.
- Seal the bucket with an airtight lid.

Here are some other suggested uses for buckets. Meal buckets are intended to hold the fixings for one large meal. Many who are serious about disaster preparedness have a bucket labeled for Thanksgiving and Christmas dinners. Another idea is to pack together a baking bucket and include all the ingredients needed for a day's worth of baking.

A Neighbor Bucket solves a dilemma we will cover later. You are preparing for your family's survival. You cannot store enough food to feed friends or neighbors. That is why we recommend keeping your storage efforts a secret. Yet, most people are uncomfortable with the thought of friends and/or neighbors having no food when they have a sufficient amount. When you pack these buckets, include a variety of items that will make full meals for the family because this may be the only food they have. Some humanitarian survivalists make one neighbor bucket for every two buckets they fill for their families.

A Three Day Bucket addresses a need that everyone can attain. You place enough food for three days' worth of meals for your family. Often a crisis arises that requires you to evacuate. This gives you three days of supplies to grab and go within a matter of minutes. If you can drive away, you could take more than one when you leave. Of course, with a large family, you may have to fill two buckets to feed them all for three days.

You will need a Food Saver or similar appliance. Yes, it is an added expense, but if you take the actions recommended in this course. It will save you money. How so?

Americans throw out a stupefying amount of food every year that spoils in their fridge or freezer. Some estimates say as much as half of our food budget for produce and meat ends up as 'cash in the trash.' If you buy one of these appliances for around \$100-\$150 and acquire the habit of using it, it will pay for itself very quickly just by everyday use.

The directions to make these buckets follow:

- Create and fill Food Saver pouches with meal ingredients.
- Place a Mylar liner in a bucket.
- Fill with the food pouches.
- Add a few oxygen absorbers.
- Place index cards with contents of bags listed and recipes for meals, if needed.
- Seal Mylar liner.
- Seal bucket.
- Tape an identical list of bucket contents to outside of bucket.

Knowing What You Have

To build a well-balanced stockpile and keep the stock rotated requires some forethought and organization on your part. Before you buy anything, write down the amount and items your family consumes every week. Of course, you are not going to

be able to maintain the same diet in an emergency situation, but you can get a general idea of the items your family likes and uses regularly.

Once you have an idea of what you want to stockpile, then it is time to track how much you use of it. For this exercise, pick a time period, say two weeks. From two weeks, it is easy to multiply your family's consumption out to cover 6 months to a year. This is also a good time to investigate the true shelf life of these items.

Add to your stockpile until you have a two week supply of every item. You are not going to benefit from two weeks of rice and pasta, without putting by meats and vegetables; you are going for balanced meals here. Once you have two weeks of the essentials, increase it out to a month, then two etc.



You need to keep records of your progress. Spreadsheets work but you can investigate online survival supply vendors. Some have free storage calculators. You fill in the values of the supplies you have and the number of people in your family. The food storage analyzer will provide you with how many calories the food represents per day and how long the food you have will last. Some of them even provide suggestions where your food inventory may be weak.

Rotate your food inventory. If you have been stockpiling items you use regularly, this is very easy to do. You simply put the newest items behind the older ones in storage. The older items are used up first that way. Of course, it is important to keep replenishing your supplies as you use them up.

If you are storing items in buckets, then try to group items with similar expiration dates in one bucket. Write the expiration date on the index card that lists what the bucket contains.

To build the stockpile while you are rotating the items, you will have to keep buying extra items periodically. It is only necessary to buy extra until you have enough to last for the time period you had in mind. Once you have that much of every essential, you only need to buy what you use up. If you decide to expand your inventory again, you simply return to buying a bit extra of the essentials while maintaining your current supply.

This small amount of record keeping will guarantee you will have everything you need for several months to a year when a crisis hits.

Non Food Essentials

You use many other items on a daily basis that are not food related. You need to make sure you build up a supply of these for use in the event of an emergency. Some of these items are necessary for survival--some are not. There are compelling reasons why we recommend some products that are not essential to survival but will improve your survival experience.

Maintaining good health is easier if you continue to take your supplements such as vitamins. A well-equipped first aid kit is essential since you will have limited access to medical care. Anything you can do to prevent illness or treat injuries is recommended. One of the companion guides covers herbs you can add to your survival garden that can stand in for medical treatments if the crisis is long term. If you have items to treat minor wounds and illnesses, you can make the adjustment to crisis living much more easily.

Barter is going to be necessary for surviving any long term emergency. No matter how diligent you are in preparing and stockpiling, it is simply impossible to know every single thing you will need. So, eventually you will need something that is not available anywhere else but from another person. You should lay in a supply of items that you can use to barter with others for items you need. Good items for barter include health and beauty products, tobacco, and alcohol.

Relieving boredom and combating stress seems an unlikely topic for a survival guide. Yet, if you think about the reality of living several months without aid or any of the elements and amenities that made up your former life, there are big adjustments to be made mentally, physically and emotionally. At first you may be only focused on survival and living from day to day but you and your family need some form of diversion. Comfort food, magazines, books, and games can give you respite in your free moments.

Maintaining normalcy is very important. We are not suggesting this will be easy or downplaying the difference between your old life and your post crisis one. Try to hold on to the things that can remain the same, like some sort of family schedule and family time. That is a portable anchoring mechanism between your two life situations. Comforts also give your family a sense of familiarity.

Convenience versus need is an important matter to consider. You may not need certain things but having them available can make your life easier or more convenient. You can bankrupt yourself if you try to get every convenience item out there. So weigh the convenience against the expense realistically.

We are going to address safely getting to a place to barter. Your stored supplies will allow you to survive and remove the need for interaction with others for awhile, but

eventually you want to start venturing out and finding ways to start replacing consumables at least as fast as you are using them. Hopefully, the situation that prompted you to go into survival mode is just a natural disaster or riot and will pass quickly.

In a situation where civil order has broken down, it is a given that you are going to be safer in some places than others. Near your home you might be safe walking around alone. But, there will be areas in these circumstances where you will want at least one other adult along. In a survival situation, you also may not feel comfortable leaving all the supplies you put by alone. Since you don't want to go out alone and you don't want to leave your survival supplies unguarded, you can quickly see why it is so beneficial to have at least a few adults on your team.

Don't Make Yourself A Target

You want to blend in. Your clothes, the bag you carry, and how you carry yourself should match those around you. Those of you who live in the city will recognize this advice as part of developing street smarts. Ideally, you should be able to go from one area to another without drawing unwanted attention.

We discussed how to blend in, but eventually you will be paying for whatever goods you went out to get. You will have money or goods to trade. How you carry either is just as important as blending in with the people around you. You always want to carry your money in front of you. Your eyes can detect thieves. You've seen it how thieves work in movies and TV; one person bumps or distracts you and a second person takes your valuables out of your pocket. Think about the last time that you paid cash for something. Did you reach in your pocket, pick out the right bills by feel, and hand the cashier exactly the right bills? Probably not... the act of selecting the right cash tells those around you whether you are a worthwhile target.

Another trick is to split your money among multiple pockets. Cargo pants are great for this. Focus on the concept of dividing your money and hiding how much money you're carrying. This simple strategy might actually save some of your resources. Many folks I know who live in big cities where pedestrians are at risk all the time keep a small amount of money in a typical place, such as a front pocket or a dummy wallet. They can give this to a thief and hopefully the thieves will move



on.

With commodities, the process is more difficult. So keep up your situational awareness.

The best way to avoid becoming a target is to make sure that you don't look like a target. This is not going to be easy. In the type of situations we are talking about it is going to be obvious to those around you that you are out foraging. People are not going to be walking the streets without a reason. If you have someone with you, split up the purchases and if you are making a big purchase, try to make it in a private location.

You are learning that surviving a long-term crisis involves far more than storing some food and water in your spare room. You should collect many non-food items ahead of time.

As always, you do not need every item on every list, but do try to get as many of the top ten necessary items as you can. These items are also going to be highly sought after and will become unavailable from conventional sources just like food supplies.

1. Light sources are necessary. Chances are in a serious crisis, you will have no power for weeks even months. You will need to be able to see after dark. Of course, in an extreme situation, we will all eventually revert back to farmer's hours. You will rise with the sun and retire shortly after dark, but you still need light sources. You get along more easily if you collect a variety of light sources including candles, oil lamps, and flashlights. Invest in flashlights that are solar powered or hand cranked, rather than depending solely on an item that could be unsustainable like batteries. Batteries are another item that are useful for barter, but you must keep track of their expiration dates.
2. Methods of cooking may vary drastically from event to event. You may not be able to use your stove or even your camp stove. It may be necessary to cook over an open fire. In that case, your usual pots and pans are not going to stand up to flames of an open fire.
3. First Aid items are a must. You know your area and which events are the most likely to occur. For example, if you live in the desert, first aid supplies for an ice storm are not going to be a top priority. That said, consider this within a couple of days after the nuclear incident in Japan following the tsunami, you could not find IOSTAT pills anywhere. The pills prevent the thyroid from absorbing radiation. The problem was this was not even in Japan, it was here in America -- thousands of miles and a whole ocean away from the crisis. Some vendors did continue to take orders, but gave shoppers the bad news that it could be up to 6 months before their item would be in stock. You can make your own kit, or buy a commercially assembled one.

The most complete first aid kit will not do you much good if you do not know how to use it. Take a first aid class as part of your disaster preparation. Another idea is to keep a first aid book with your kit.

4. Garden Seeds are already a part of your life if you are a gardener. You know we recommended you start a garden to provide your family with a renewable source of food. Whether you have taken that step or not, a supply of non-hybrid seeds should be among your emergency survival items.

Plants that grow from non-hybrid seeds produce their own seeds from each crop. If you look around online, you can find garden seeds sealed inside a #10 can. The packaging ensures the seeds will remain viable for a long time. One such product includes 18 types of vegetable seeds and directions for growing them. If you are not a gardener, this is a very easy way to prepare for living through a disaster that lasts for a long time. It doesn't even have to be a disaster or crisis. Just an interruption in the supply chain like a truck strike can turn a small backyard garden into a godsend as your only available source of fresh vegetables.

5. Personal hygiene items are also necessary to keeping you and your family healthy. You may not be able to get soap, shampoo, or toothpaste. Do not forget the females in your family—feminine hygiene products are also a necessity for your stockpile. They are essential for the comfort and health of the women in your life. They also double as first aid supplies as you will discover from the section on “in the field” medicine.
6. Weapons and ammunition are big sellers in times of trouble. Whatever your feelings are on the issue, during a crisis there are good reasons for having guns and ammunition put by. Rifles allow you to hunt for meat assuming you live in a rural environment.

You will need them to protect your family. Most will not be prepared for a crisis, and many will go to extreme lengths without any thought of hurting others when their children are hungry. Do not think you'll be able to call 911 for help; the police will certainly have their hands full with other things, assuming they are even on the job instead of home helping their own family. Safeguarding your family will be your responsibility.

You put together a first aid kit as insurance, and you certainly hope you will not need it. Think of weapons and ammo in that light. Hopefully, you will never have to use a gun to defend your family from harm, but if it comes down to that, you will be prepared. (If you have no experience with guns, take a gun safety class

to learn to maintain them and use them safely. If you can convince your spouse and older children to take it as well so much the better.)

7. Baby and incontinence items are other candidates for your survival stockpile. Imagine doing without these items for your baby or elderly relatives for any length of time. For babies, remember they will grow so take that into account when you stockpile.
8. Bleach has uses other than cleansing and disinfecting. A few drops can purify water as well as boost cleansing for laundry.
9. Water filtration is necessary for a household's long-term survival. We already mentioned that it is unrealistic to think you can store enough water to last for 6 months or longer. You will need to collect and filter water from other sources. There are very inexpensive water filters available. For a family though, a high quality filter is necessary to purify the quantity of water you will need.

Quality water filters cost from several hundred dollars to thousands. It is a necessary expense that could save your family's life.

10. An energy source is not a necessity, but it is one of those items that make life easier. Just compare in your mind the difference in living with no power, and having the option to power some appliances or even a small television.

A variety of emergencies or natural disasters can leave you with power for a month or more. Solar energy is a popular choice because it is renewable. You are not tied to the availability of gasoline or propane like a generator. Fuels also can become prohibitively expensive during a crisis.

Goods to Barter With

The whole secret to successful bartering is to have items to trade that are desirable to other disaster survivors. You won't know with 100% certainty what will be popular, but you can surmise that the basic things we have discussed that sell out quickly will be attractive to others in your situation. The more kinds of things you have, the more likely you will have an item that is desired by someone who has what you want.

Use common sense. Do not bring all your barter items with you when you are attempting to trade. It is a good idea to ration your stock of barter goods so that you can make them last through an extended period of time. You want to keep what and how much you have a secret. Otherwise, you could become a target of thieves.

Comfort Items

Survival is the paramount goal in a disaster or crisis, but we talked about the benefits of things that bring comfort. These are often overlooked, but might play an important role in the well-being of your family, especially if you have children. Comfort products help with stress busting and build morale. Again, you can find a complete list of suggested items in the Book of Lists.

Of course, feel free to add to the list. You know the things that will mean the most to your own family. If a member of your family has a favorite hobby, do not neglect to lay in some supplies for that.

If you have children and the disaster is severe and protracted, remember to hold back one or two toys per child to give as a birthday or holiday gift.

You can see that having a few comforting possessions is not the most important consideration, but they can make a very frightening and difficult situation much more bearable.

Cooking During a Disaster

You may follow all of our suggestions and have an astonishing array of food and other essentials ready for any emergency. However, if you have no idea how to use the food stuffs or cook without a microwave they are not going to do you much good. You certainly do not want to be burning and wasting your precious food when there is a question of how long it will be before you can replace the supplies you have on hand. In other words, you should familiarize yourself and practice alternative cooking options.

Many of the 'survivalist' long-term storage food items do not come with instructions on the can. You will need to do some research about the use of such products. So, before a crisis occurs get to know your stock. You do not want to be learning how to cook with unfamiliar ingredients when the sun is about to go down. Try to learn how to use your stored foods now. Then, you can confidently cook without adding your own disaster to the family mealtimes.

Practice

We understand that many of the specialty items you have in your stockpile are more expensive than typical basic supplies. We get that you are reluctant to use them because they cost more to replace. Still, we are going to give you a few reasons to offset the fear of wasting your hard earned money by practicing with each one at least once.

First of all, you can learn if your family will eat it. If they refuse to eat a meal, why waste money and space storing it? Now, the unpleasant truth is, when you are hungry and food is scarce, the picky gene disappears very quickly. But, it is just as easy to stockpile foods they like as it is to store things you have to force them to eat. Again, why bother? Whatever you have already purchased that your family doesn't like can be put into the barter section of your storage.

Secondly, you can make a mistake without wasting your supplies. If you practice ahead of time, a burnt meal won't upset and stress you out nearly as much as it would during the real emergency. It is an invaluable chance to brush up on your skills without the additional pressures of the crisis weighing you down.



Believe it or not, practice can actually be fun. Some families practice for a crisis on a regular basis because they realize it is a serious matter. Some even have drills where they only cook from their stored food items and with alternative heat sources for as long as a week a couple of times a year. You can even get your kids behind the idea if you call it a campout or cook out night or weekend. They will not be intimidated if

they cannot use their familiar appliances during a disaster or emergency. We will talk more about this in the psychology section in the Home Security Guide.

Many families go all out once a year. They turn the water and power off to the house, and practice living in conditions similar to what they may encounter during an emergency.

Even if you do not do a full drill, use only cooking methods that would be available to you during an emergency. For example, avoid using the stove and try preparing all of your meals using alternative cooking methods.

Survival Baking

This is a challenge for nearly all survivors. How do you bake without an oven? Is it possible to make bread without an oven? You really can make bread and other baked items over an open flame. Think about it for a minute...in a crisis such as we are discussing, the only way you will have a loaf of bread is to bake one from scratch.

You can even do the tried and true from scratch method of baking provided you have all the 'riser' ingredients in your stockpile. This isn't any different than making bread or cookies from scratch in your own kitchen.

Baking Mixes come in long or short-term storage types. Those with a long shelf life typically only ask you to add water. Items you buy at the supermarket are usually fine for six months. They require a variety of additional ingredients, which vary between the items and the brands. Be sure that you familiarize yourself with what else is required for the mix before buying a large quantity of them. It does you no good to store food that requires ingredients you do not have in your stockpile. Keep it simple and pick mixes that only need minimal additions

A Dutch oven is essential for baking over an open flame. You might consider investing in two different sizes of Dutch ovens--a small one for baking and a larger one for cooking soup and stew.

Dutch ovens require a different type of care than most give to their ordinary pots and pans at home. Dutch ovens are usually cast iron and require seasoning before you use them. You bake oil into the interior surface (both bottom and the sides). It is recommended that

you season your Dutch ovens before you need to use them. It is lots easier to do it in your kitchen oven where you can control the temperature.

Wash and dry the oven thoroughly. Spread a film of vegetable shortening (Crisco) on the bottom and up the sides. Put the Dutch oven in your kitchen oven set at 300° for an hour. Let cool, then wipe the inside out to remove any excess grease. The entire inside surface should look smooth if not repeat the seasoning process.

Cleaning is very different from what you are used to for your kitchen pots and pans. Never use soap or dish detergent. The following gives you the steps for cleaning your Dutch oven:

- Only use plastic utensils to scrape food residue from the inside.
- Clean the inside with hot water and a non-abrasive sponge.
- Dry thoroughly.
- Use a clean cloth to add a thin layer of oil on all inside surfaces.
- Wipe off excess oil.



Cooking at the proper temperature with a Dutch oven takes some practice. Both charcoal or wood can be used as heat sources. There are videos on YouTube that demonstrate the proper cooking method for open flame and Dutch ovens.

Bread, cookies, and pancakes can bring your family the comfort of normalcy during a time of crisis.

Survival Cookbooks

Just as we recommended a first aid book, we suggest you buy a survival cookbook or two to give you inspiration about creating meals from your stored basics. Many of these books will teach you how to use your long term storage items and give you invaluable tips. Once you buy the books, take the time to read through them before you put them on the shelf or take them out for a survival cooking practice drill.

Crisis Cooking Tools

You may want to add some of these other utensils to your emergency supplies.

A camp stove is a tabletop stove that runs on propane cylinders. This is a portable item that you could take with you in the event you needed to evacuate your family. Remember to buy spare propane for it as well.

A charcoal grill is useful for emergency cooking. However, you must have an extra supply of briquettes put by if the crisis lasts for a long time. You must store charcoal where it will not get wet.

Gas grills are in most people's backyards already. They are not portable, but give you a decent sized cooking area that most know how to use. We recommend that you always have at least two tanks. You will have propane for an extended period, and as an added benefit, you will never run out of fuel when you are trying to grill for a backyard full of guests.

You can make your own small portable stoves suitable for boiling water or cooking soup in a can.

- Wash out tuna or other small cans.
- Cut some cardboard into strips and coils them around the inside wall of the can.
- Melt some candles and pour the wax into the can leaving some of the top edge of the cardboard above the wax level. Let the wax harden.
- Poke holes in the sides of an empty #10 can for ventilation.
- Light the cardboard and upend the #10 can over it. Within a few minutes the top of the larger can will be hot enough to cook on.

Flameless Heaters are used with MREs. If you have some in your emergency survival storage, then flameless heaters are a quick and easy way to heat them up. This is a small pouch that you add to water. A chemical reaction heats the water up; you then put your MRE pouch in the water and you have a hot meal.

Collapsible Stoves and Stove in a Can are specialty items sold by survivalist vendors. They are compact and can be used for camping as well as in a crisis situation. Solar Oven is perfect option for emergency preparedness. All you need is a sunny day. You do not have to worry about any other source of fuel.



You can buy them commercially or build one from plans. The downside is the temperature is tricky to regulate. You may need to try different parts of your yard to find the optimal spot to use it.

Of course, the sun moves during the day so that plays a factor as well. If you want to try using a solar oven, you definitely need to practice and learn how to use it as soon as you can.

Having a variety of cooking method options is just one more way of being prepared to care for your family during a crisis. It is possible that you might run out of charcoal or propane, but

with a Dutch oven and, some wood you will still be able to feed your family down the road.

So You Didn't Stockpile Ahead--Now What?

We already talked some about bartering, but we have a few additional tips to offer.

Have a good quantity and variety of items. How much you have set aside for bartering depends on your budget and your storage space.



Do not overpay. Bartering is not like buying with cash where you know the prices ahead of time. Trades should be equal in value and beneficial to both parties. In other words, if someone offers a few candy bars for a pint of booze you probably should find another individual to barter with. You can hone your bartering skills as well as save money while amassing your survival essentials by shopping flea markets and yard sales. Tools, canning jars and camping equipment have no expiration dates.

Bring out that poker face you use with the car salesmen. You do not want to be overly enthusiastic. If the owner of the item you want sees how much you actually want it, you give him the advantage and the asking price is guaranteed to go up. By the same token, do not insult his supplies. Be polite and respectful and keep the trade fair and equal on both sides.

Bring only a few items to trade. Bring what you think will make for a fair exchange to get whatever it is you need and a bit extra. You do not want to flash your wealth in desirable items any more than you would flash a wad of cash in your wallet. Your safety and the safety of your family are at risk if you are not discreet about what you have on you and might have at home.

Barter will become the method of trade if the economy collapses. In that case, a renewable resource like filtered clean water (water filtration system) or a thriving garden is a guarantee you will have crisis currency when paper money loses its perceived value.

Empty shelves in the store also immediately elevate the value of goods over cash. You could have all the money in the world but if there are no goods to buy, it is as good as worthless. In fact, that was the case even in the US during WWII because kitchen staples were rationed. You could get more value from a couple of sticks of butter and a dozen eggs, than a handful of cash.

Distribution Centers

Distribution centers are like a clearing house for goods before they make it to the grocery store. Do a little research and discover if there are any of these warehouses in close proximity to where you live. Learn what products they distribute. Then, if you need something, you will know which of these centers is likely to have it in stock if products are available.

These establishments often do not sell to the general public. In a crisis, they may relax their policy under the circumstances of a disaster. Logically, they also will have a large quantity, but it too is limited, so you might want to keep this information to yourself just in case.

Emergency Aid Groups

These are organizations with supplies for the indigent or those who had already suffered severe loss. Logically, they typically have limited resources; otherwise, there would be no need for this guide. You should learn about these groups in your area ahead of time. If you need something and can meet their eligibility requirements, this may be another source of the survival items you are hope to find.

Preparation eliminates a frantic search for basic items to help your family survive. That is you best defense against a store full of empty shelves and a house full of hungry children.

Where Should I Put This Stuff?

Another challenge to starting now to amass a stockpile of items for crisis survival is storage. If you live in a small place or a house already stuffed with the accoutrements of family life what will you do with it?

The good news is even one bedroom apartment dwellers have managed to come up with storage solutions using a little ingenuity. The short answer here for storage is space that is already being wasted in your home. You'll see what we mean in the suggestions that follow.

Most Americans have nothing under their beds but dust bunnies. This is wasted space where you can store a portion of your stockpile. For the most part, it will be protected from heat and direct sunlight. One trick to increase that space is to put risers under the legs of the bedframe. If you have three beds in your house, that is a lot of storage space.



Another ingenious idea is some tricks with coffee and side tables. Replace your coffee table with a hope chest or a trunk. You can fill the inside without giving up any living space. If you use the type of end table that is just a top with 4 legs you can pack the space underneath with emergency supplies. You can cover the table with a cloth that reaches the floor, and none of your company will ever know.

It is even possible to use barrels or

closed buckets of grain instead of an end table. (Just cut a piece of wood to create a bucket lid. Once again, cover with a floor length cloth.)

This tip is more work to camouflage but it also gives you a great deal more storage space. You may have no choice but to give up space in your rooms. Instead of losing entire room, take a foot from several.

Measure out between 1-2 feet from the wall. Put up a curtain rod to hold a curtain that screens off the space and the wall. You've created an instant closet. In fact, most real closets are following the same principle in new houses. In many cases, once you arrange your furniture again, you won't even miss the space.

You may be fortunate enough to have unused space in your attic or basement. This is possible even if the area is unfinished and uninsulated. Unfinished attics get very warm, so you will not be able to store food there, but you can store any of the non-food, comfort, or convenience items there without any trouble. Basements stay cool so they are fine for food. You must guard against moisture damage however.

In either the steal a foot or attic and basement tips, you will need to build shelves to make optimum use of the storage space. Make sure the shelves go floor to ceiling to grab every useable inch. If you cannot reach the top shelf, put items that do not need to be rotated like extra pillows, blankets, candles, etc. The necessarily narrow shelves for the steal a foot space will hold canning jars, and #10 cans two deep. The bottom shelf (or floor) is a good place to line up jugs of water or large buckets with grain in them.

Other Problems to Look Out For

Spoilage is the biggest enemy to your food stockpile. The way you store your food supplies can prevent spoilage. Your supplies have a shelf life even if you keep them away from heat, moisture and air. You cannot just buy the items, put them on the shelf, and forget about them. Not only have you wasted your money, what happens to your family in an emergency when your supplies are inedible?

Keep track of expiration dates. Normal grocery items usually last a year. Write the date on every item as you put it on the shelf. You can see the date easily. Do not forget to put newest items behind older ones. When the dates are getting close, remove the item and add it to your pantry supplies to use. When you remove an item that is close to expiring, make a note of it so you can replace it.

If you open an item like powdered milk or a dehydrated entrée that is multi-use you must keep it in your everyday storage and use it up. Never return open food items to the storage shelves even if they have a several year shelf life.

We touched on this briefly before, but you must not forget it. This is serious enough your family's life may depend upon it. Do not talk about your emergency supplies. You are storing food for your family's survival. Do not tell even your closest friends. The only exception to this is if they are also making their own preparations. Even then, do not be too specific unless you have chosen to collaborate with the other survivalist during a crisis.

If you tell others, they will come begging or worse yet to steal from you. Those that you tell might say something to someone else, and they tell others, and so on. You cannot feed half the town. Keep your preparations private and secret. Make sure everyone in your family understands the need for discretion.

Another reason to keep quiet about your stored food is some states have regulations regarding stockpiling food. Some states do not allow citizens to store food. This is a controversial law that many are fighting to change. In the meantime, you could get in legal trouble if you have a food storage program in a state where such practices are illegal.

During an emergency, disaster or crisis, people, even your friends, will do anything to feed their hungry children. If you have a year of supplies stored, it will only last a few days if you feed your entire neighborhood. You may, if you have the funds or space, store some extra supplies to share with a neighbor or friend. Nevertheless, you still need to keep mum about exactly how much you have put by. If you give charitably, the best course is to do it anonymously after dark.

If you have an outside garden or water filtration system, try to place them in an inconspicuous spot. If they are visible to strangers on the street, you are at risk of your vegetables being stolen during a crisis.

Remember to practice using unfamiliar equipment and foods. Camp out in the backyard one weekend and try out the things that are new to you.

Secondary Locations

The old saying goes... do not put all your eggs in one basket. Well, this warning can apply to your emergency preparedness. Imagine if you spent time and money to lay in a stockpile for survival and a storm, flood or fire wiped it all out. It does happen to well-prepared people. Ideally, you should divide your stockpile between at least two locations.

The secondary location could be a second home, the home of a friend or family member, or a climate controlled storage unit. We touched on partnering with a friend or family member briefly earlier.

You should share these important points with your survival partner. Do not to talk to others about your emergency stockpile. You can store half of your partner's supplies at your home and half of yours at his/hers. Make sure you have a variety of goods at each location. Both of you have to keep up the rotation of your stored supplies. As time goes by, the expiration dates get closer. The second location should be far enough away from your residence that a disaster like a fire or flood will not affect both locations. It does need to be close enough for you to reach it if necessary.

Choose your partner wisely. The survival of both of your families may depend on the two of you having the same mindset and being able to work together. It is recommended that the two of you become true partners and share the expense of buying the cross-location stored supplies equally. This eliminates any issues if the goods at one location are destroyed. If you buy things together, you own them equally. There is less of a chance that your partner will say it was your stuff that was destroyed and refuse to share what remains. You can learn more about this in the companion home security guide.

In The Field Medicine

During a crisis either you or someone in your family is sure to get sick. Depending on the scenario and how badly the infrastructure is affected, there may be diseases that we seldom see in the US. The best way to prepare is to get your family in the best shape possible health wise.

The best way to do this is to strengthen your immune system. This can prevent you from getting sick in the first place or help your body fight the disease if you contract something. There are quite a few simple ways to boost your immune system.

Americans spend very little time outside. The knowledge that sunshine on your skin provides Vitamin D, which is a powerful immunity booster, has practically been forgotten.



Of course, you will have to forgo the sunscreen to get the Vitamin D benefit from the sunlight. If you have fair skin, 15 minutes of sun exposure will give you 10,000-20,000 IU compared to the recommended daily allowance of 400 IU! A glass of milk provides about 100 IU.

How's this work? Well, vitamin D is converted into the hormone, calcitriol in the liver and increases the body's production of antimicrobial peptides. These peptides destroy the cell walls of bacteria, fungi, and viruses, including the influenza virus.

It's important to note that not all vitamin Ds are the same. Most supplements contain Vitamin D2, but the form of vitamin D created by the body when exposed to sun is Vitamin D3. Both are converted to their more usable form in the body, but D3 converts 500% faster and binds with proteins more effectively than D2. The effectiveness of Vitamin D3 in fighting viruses has been studied since the 1960s. Sunlight (Vitamin D3) is believed to be the main reason why the flu is worse during the stormy fall/winter. People spent the majority of their time indoors.

The Inuit, which are aboriginal Eskimos, eat primarily fish (high in Vitamin D3 and DHA) They stay healthy through the winter months, despite less sun exposure.

Here are other simple, ways to bolster your immune system.

- Get Vitamin D through daily sun exposure
- Daily omega 3 from fish, or high quality supplements
- Eat garlic often, if you're able to
- Avoid sugar and processed foods
- Get enough rest. Less than 6 hours of sleep each night increases your chance of contracting illnesses by as much as 300%
- Control stress
- Exercise
- Wash your hands thoroughly throughout the day

Additional strategies and dietary aids for you to consider for boosting your immune system and helping keep you healthy:

Probiotics replenish the good bacteria supply in your digestive system and help you get more nutrients out of the food you eat. Over 70% of your immune system stems from healthy intestines. In addition, these good bacteria will help your body fight off bad bacteria.

Echinacea boosts the immune system by increasing white blood cell counts. At the first sign of illness, increase your dosage.



Astragalus is an effective herb to take to strengthen your immune system before getting ill, but should not be taken once you're sick.

Stop Smoking If you're addicted to nicotine, you've heard all of the arguments.

Limit Caffeine Intake to one cup of coffee per day. Once you get through the withdrawal, you will have more energy (not less), a lower stress level, and you'll be able to sleep better.

Use a Paper Towel to open doors

when leaving bathrooms after you wash and dry your hands. You'll often see trash cans by the door outside.

Carry your own pen to sign credit/debit card receipts rather than using the common pen at store registers.

The items listed below cost less than \$100. They've got long shelf lives, and you can always use them in the future. This gives you another option if medical attention is unavailable to you and your family. Don't let their simplicity fool you. They are very effective.

- In addition to daily sun exposure, take 10 milligrams of **zinc** daily. If zinc makes you nauseous, you already have enough.
- An effective treatment for the flu and pneumonia in particular is the use of high quality **oregano, thyme and rosewood oils**. You can put 5-10 drops of each in a warm bath, 5-10 drops of each in a steaming bowl of water and breathe in the steam, or 5-10 drops in a humidifier. The Survival Herb Garden guide teaches you how to make your own.
- A combination of **Grapefruit Extract, Tea Tree Oil, and Colloidal Gold** is effective against even drug resistant respiratory infections.
- **Elderberry or sambucol**, a natural anti-viral, is very effective for upper respiratory infections. It comes in both liquid or tablet. Elder-Zinc lozenges are available that contain both elderberry and Zinc.
- **Avoid antacids** Those who take Nexium, Prevacid, Pepcid, and Zantac get pneumonia 4X more often than those who don't. Current users have an 89% higher chance of contracting pneumonia than former users. Probiotics will help your digestion and cut down on any acid reflux.

I encourage you to read up on these alternatives and have some or all of them on hand. It could be very important, especially if there is widespread disease and people are dying. It is a bad time to get sick when medical attention is not an option.

Tips for Field Medicine

These are non-conventional treatments. The type of thing you would learn in wilderness medical training. I encourage you to take a class like this because this form of first aid assumes you do not have a stocked bus and an ER waiting a few miles away.

By continuing, you accept the risk that these treatments may hurt you or others. You should do your own research, get proper medical training from a wilderness first aid class. These tips, tricks, and shortcuts can help anyone, but they are last resort actions and are not intended to take the place of proper medical attention in normal circumstances.

That being said, the tips can't teach you how to deal with injuries or medical situations when you don't have someone with medical training close by. Any survivalist will advise you to take a class to acquire the skills to improvise and adapt using the items at hand. If you have been following this course, your thinking has probably changed from immediacy to improvising and making do anyway. This mindset is needed in a disaster or emergency situation.

For example, hospitals are important but are only designed to handle about 20% of their region's residents. This means in a major situation, hospitals will quickly be operating at 500% capacity in most metropolitan areas. Not only that, hospitals operate just like supermarkets. They only keep a few days of supplies because in normal times they can always schedule the delivery of more. This is a cost saving measure that makes sound business sense, but is a recipe for disaster during a crisis.

Another disquieting fact that should give you pause: 90% of the hospitals in cities run at 90% capacity—you guessed it—90% of the time. This doesn't mean you shouldn't go to the hospital if you or someone in your family are seriously injured or have a life threatening condition, it just reminds you that you may wait a long time before someone takes a look at you, and the hospital might not even have the supplies to treat you.

Like everything else we've discussed in



this guide, practice your emergency first aid. If you do enough dry runs using different scenarios, your hands will remember what to do even if your brain freezes up in shock. Actually, if you think about it, the most logical time to pick to practice is after “the worst day ever” when your stress is through the roof. It closely mirrors how you could feel during the real thing.

With that in mind, we offer a few practical suggestions you can try at your own risk to tide you over minor conditions you might encounter during an emergency.

Superglue/Crazy Glue is a substitute for stitches on small cuts. You can also use it to treat wounds on your dog. It is also effective for blisters and hot spots.

Crazy Glue works a little better dries quicker and thicker. The convenience of 12 packs of Superglue may appeal to you though. It's cheap enough and has enough uses that it's worth buying a few tubes and practicing with it on your hands and/or feet

CAUTION Superglue is very effective at securing skin to skin, so do not touch the glue with a finger to see if it is dry. Test for dryness with a scrap of paper.

Some people have an allergic or asthmatic type reaction to Superglue. Take the time in advance to try a small amount of it on your skin and see if you have a reaction. Take responsibility for your decisions when it comes to this section of the guide. Allergic reactions and severe asthma can kill you. If you have any fears about your reaction to superglue, there is an alternative mentioned below.

Even with unconventional medicine, it is necessary to follow standard wound preparation procedures:

- Clean the wound with sterile water and control bleeding with pressure and elevation.
- Pull the edges of the cut together with a butterfly bandage or tape in a butterfly shape. With the skin lined up, apply a thin layer of superglue.

You have treated enough cuts to know it is going to hurt; the difference here is the fumes may affect your eyes. Keep your face far enough away to avoid breathing the fumes or letting them reach your eyes. If you wear contacts, this is twice as important.

Cover plenty of healthy skin on both sides or it will pull apart very quickly. Spread the superglue with a toothpick, a safety pin, or the even tube itself, but move quickly. Anything with cotton –clothing, cotton balls, or Q-tips causes a chemical reaction that can burn your skin. Once the glue dries, (in 1-2 minutes) apply a second layer over the top.

Cover the glue with cloth or paper to keep the tape from sticking to the wound. This prolongs the life of the glue on your skin and keeps dirt out. Finally, cover the superglue when it's dry with duct tape or a bandage.

There are less toxic medical superglues. They dry slower than superglue, wear off faster, and don't hold wounds together as well. They are also \$20 to \$50 a tube. Allowing for the inflation that is sure to come, SuperGlue will run about \$10 for a 12 pack at the most, probably much less. If you find you are allergic, try out some of the medical superglue alternatives that you can find anywhere first aid supplies are sold.



Maxi Pads You may be surprised to learn these have few substitutes in field medicine. One reason is obvious, but they have other important uses. You should always carry maxi pads in your 72 hour kits and/or med kits.

They are ideal for absorbent trauma dressings. They will soak up a lot more blood than a conventional 4x4 dressing. They infinitely cheaper than ruining a roll bandage (like for sprains) when applying pressure and staunching blood flow.

You may hear people promoting the use of tampons and duct tape. Over the last few years, EMT and medic experience in the field has shown this to be a bad solution for small injuries because the tampon swells and tears healthy surrounding tissue as it soaks up blood and expands. If the wound needs to remain packed for an extended period, you risk septic infection.

Two other alternatives to absorbent dressings that you may have with you in an emergency are disposable diapers and adult undergarments.

Dental Floss Dental floss is invaluable with wrist, elbow, shoulder, or arm injuries and the swelling of the fingers that is a result from this type of injury. The combination of rings and swelling present potentially serious medical problems. The ring becomes a tourniquet, so it's vital to remove the ring ASAP. You don't want risk losing a finger in a crisis situation.

Medical professionals will tell you using floss is the best method for getting a ring off a swollen finger quickly. Look for the widest waxed dental floss you can find:

- Start wrapping the ring finger, starting at the fingertip.
- Wrap the floss around the finger all the way down to the ring. The goal is compressing the finger by encasing it tightly in the floss. When you're done the finger with the floss should be a smaller circumference than the ring.
- If need be, add additional wraps to push down the bulges that poke through and remove the ring quickly.

Alternatively, you can also use VCR or cassette tape for this, if you happen to have something like that laying around.

Sugar Believe it or not, sugar treatment to heal wounds dates back to 1700 BC. Commercial products using sugar are marketed for injuries in horses. The simplest and most effective mixture is sugar and a 10% iodine or betadine solution. Pack or cover the wound with the mixture, and dress it. Pure sugar prevents the growth of bacteria; the sugar soaks up fluids and the wound drains. Obviously, iodine prevents infections. A When this has liquefied, reapply if necessary.

Safety Pins Safety pins are versatile tools for survival. Your imagination can come up with a myriad of uses for them. In addition, they have medical applications. Large safety pins double as finger splints, drain blisters, close large wounds to avoid contamination by outside materials.

Duct Tape My daddy used to say: "You can fix anything with enough baling wire and duct tape." Duct tape is the survivalist's best friend medically and otherwise. We mention just a few uses for you to practice.

This first example is not exactly a first aid issue. More like a preventative action to keep you from needing to use it for some of the other ones that follow. If the only way you can get around is on foot, your shoes become crucial to your survival. You may not have the optimum footwear in a survival situation, and they may give out under the extreme conditions. You can reinforce them with duct tape or even improvise shoes from duct tape by wrapping your feet. This is something you might practice, improvising with different materials that would logically be available to you...Your kids would probably find "tape shoes" funny.

Why Plant A Survival Garden?

We have mentioned planting a vegetable garden several times now. We are going to give a quick overview of the benefits here. We cover the subject in more detail in other volumes.

There is one thing all people have in common; they need food to survive. In a crisis, the government agencies will come along to help you out eventually. Initially, food relief is going to be basics like rice and beans. Fresh fruit and vegetables will be the scarcest items.

A healthy diet includes fresh vegetables. Your garden might be the only source of them for several days or weeks. Canned foods lack many of the vitamins found in the fresh versions. They also often contain high levels of salt as well as additives or preservatives. You know that your vegetables do not have wax on them or have been sprayed with pesticides. The healthier you are able to eat, the more likely you and your family will stay well during the crisis period.

Another point in the garden's favor is it provides you with a sustainable and renewable source of food if normal life does not resume for an extended period of time. Another health bonus is your family will consume it when it is fresh. Many times the produce you buy from the store has been in transit for weeks. All that time, the vegetables and fruits are losing nutrients.

You can enjoy your garden's bounty now, can some of it for the future, and know you will have food during an emergency.

Getting Started

Obviously, you are not going to grow vegetables and fruit overnight. Growing plants and setting fruit takes weeks. Just like your stockpiling and storage, we recommend you get started now.

You may have questions and worries; we will try to show a way around these obstacles to getting started with your garden.

One of the most common objections to planting a garden is the lack of space. You do not need an acre. Your garden can be large or small. You can even grow vegetables indoors if you have no outdoor patio.

Another thing that holds many people back is not having any gardening experience. You might feel intimidated and think it is hard. Seeds grow on their own with very little water and almost no care. As long as you have a basic understanding of how things grow and bear fruit you can start right away. You can look online for information or check out a book on vegetable gardening from the library. Some home improvement stores and gardening centers offer classes in gardening.

Gardens do not have to be grown outdoors. In fact, there are a number of reasons that an indoor garden is a more logical option for a survival garden than an outdoor one. These reasons all have to do with you being able to control access to your garden.

This does not mean you cannot have both an indoor and outdoor garden. If you want to grow produce outside as well, try to find a secluded spot away from view to minimize theft. Perhaps, you can take the view that your outdoor efforts can supplement your charitable instincts and are a supplement to your 'neighbor buckets'.

Gardening outdoors comes with challenges:

- Gardens attract bugs.
- Wild animals can also eat your plants and produce.
- The growing season is usually dependent on the weather.



Make your garden a family project. You can teach your children valuable lessons as they watch your garden mature, produce fruit, and enjoy eating it. They can learn to be self-reliant. If they help grow the food, they are more likely to try it. It is a good idea to nip fussy eaters in the bud, because if something really terrible happens, it could be years before life and food as they know it gets back to anything approaching what they are used to today.

If your budget is tight, you can start out very affordably by planting a couple of containers with the kids.

A Word About Seeds

If we have piqued your interest on all this survival business, I'm sure you have snooped around online to look at some of the survival websites and products. You may be noticed they sell a product called something like Heritage Plant Seeds packaged in cans.

You might wonder what's wrong with those packets of seed at the home improvement or gardening store. These are almost always hybrid seeds. They have been genetically

altered to resist diseases and do all manner of things the 'heritage' seeds do not do. Hybrid seeds produce disappointing second generation plants and sometimes do not germinate at all.

A sustainable and renewable source of food is crucial should the crisis last for an extended length of time. We have explored food and storing it over the long term.

Conclusion

It is human nature to think disaster will never strike you or your family. It can and does strike without warning. Somewhere in the world, every day and sometimes more often than once a day, a crisis, disaster or emergency occurs.

You should not be vocal about your preparations. This is a way to keep your family safe and avoid family or friends' opinions or mockery keeping you from preparing for a crisis. Some may think you are being paranoid or alarmist and may make their opinions known. Of course, they will probably be the first at your door looking for a hand out. Just remember, the only ones who will be afraid are those who are unprepared. Your family has less to fear with a stockpile of food and equipment to last for months.

A trucking strike or a union walkout in the grocery industry can also result in empty shelves in the market. Not only that, the amount of land devoted to growing foodstuffs is dwindling. Eventually supply will exceed demand. If you hear any news on TV or the internet about the supply chain being interrupted, a food shortage may be coming. Stock up on perishables.

Do not put your preparations off. You can start slowly, a little at a time, but you must start because it is impossible to know when a crisis or disaster will strike.

Survival Water

2/3 of the Earth's surface is covered by water. Water makes up 75% of the human body. It should come as no surprise that the human body can live much longer without food than water. Just as water promotes life on earth, water allows all the functions in a human body to take place.

An adult human body contains 42 liters of water. You only have to lose about 2.7 liters before dehydration sets in. It shouldn't surprise you that when America was being explored and settled one of the first considerations on the livability of an area was a source of water. In fact, most of our country's major cities are located on a river or a body of water. Even today, our space exploration is focused on finding water on other planets. It's just that important to human survival.

As important as water is, our actions clearly show that we take its availability for granted. Most of us just assume it's going to be there; all we have to do is turn on the faucet. The majority of Americans have never had the experience of getting water from any other source than a faucet. Unless your family has done true wilderness camping, most campgrounds have a water faucet. As for those, whose idea of camping includes a forty foot fifth wheel or motor home, they get water from a faucet too.

On some level, we all know that most of the water on earth is not drinkable. But, did you realize that less than one half of one percent of all the water on the planet is fresh?

What if you came home from work at night and you turn on the faucet nothing came out?



Lots of things can happen to interrupt the flow of water to your home. Sometimes, even a power failure can keep city water from reaching your house. You could even have water, but it could be contaminated by a natural disaster, a chemical spill, or even an act of terrorism.

Of course, the Federal government, FEMA, the Red Cross and other agencies will eventually come to your aid. But it may not be quickly. Due to budget cut backs during the recession, most of the state's are losing ground when it comes to emergency preparedness. Even the Federal government has budget problems that reduce the amount FEMA can do without private donations. Financial considerations

aside, they can't be everywhere at once, and often times they may not be able to reach your neighborhood.

That is why FEMA recommends you store enough water for your family to last two weeks. You NEED water. Each family member will need a minimum of ½ gallon a day. If you are doing manual labor (very probable in a crisis situation,) you will need more—up to a gallon a day.

But if you really want to guarantee your family's survival, you should have a plan to source and collect water in an emergency. Depending on the event, you may have to be solely responsible and self-sufficient when it comes to essential survival items for your family. With this guide, you will learn the basics of survival that pertain to providing water for your family.

When You Have Warning

We assume that you have stockpiled bottled water. If you haven't started yet, begin today. Often times, you have some warning that a disaster is imminent.

In that case, fill all of your bathtubs and sinks with water. If you have 5 gallon containers or buckets fill all of those too. If you don't have large containers, fill as many as you can in whatever size you have. Collect as much water as you can before the disaster hits. If the containers are not meant to be used with food, that water should be reserved for washing up and not for drinking.

Unexpected Water Shortage

Many things can happen to disrupt the water supply without warning. These are just a few of them:

- Acts of war or terrorism
- Tornadoes
- Earthquakes
- Flooding

As long as you have been following our advice, you will not get caught having to try to find supplies if one of the above happens to you. You will have your stockpile of water already. One gallon a day per family member is recommended. You also should figure half a gallon per person for washing up. Dishes and bodies still need cleaning even in an emergency.

This is more than you normally need, but if you are outside in the heat and are unaccustomed to it or are more active because of the circumstances you will need to drink more than normal.

We mentioned that you should plan to have some method of collecting and storing rainwater or ground water. You may live in a place where you have access to a stream or a lake. You cannot depend on that water remaining uncontaminated though. Remember that typhoid fever, dysentery, and infectious hepatitis are diseases often associated with unsafe water. Under serious disaster conditions, no water can be presumed safe - all drinking and cooking water should be purified. Remember survival for a long period of time depends on planning for all the what ifs and worse case scenarios happening at once.

Water Borne Pathogens

There are 3 micro-organisms that make water unsafe to drink:

Protozoa: They live in insects, or in external cysts on animals. Examples of common waterborne protozoa are amoeba, giardia, and crypto (sporidium). Protozoa range in size from 1 to 100 microns, with the average being around 16 microns. They are easily removed from water by boiling. Because of their large size most of them are also easily removed by commercially available water filters (with the exception of the very small crypto). Some are relatively resistant to both chlorine and iodine chemical treatment methods. It has been estimated that 90% of the surface water in the United States is contaminated with protozoa.

Bacteria: A one-celled organism that can exist in the air and in water. The average size of bacteria is between 0.2 to 1.5 microns with some as large as 10 microns. They are easily removed by boiling, by chemical treatments, or by most good water filters. Fortunately, not all bacteria are life threatening. However, the most common life-threatening waterborne bacteria are dysentery (diarrhea), typhoid, (vibrio)cholera, campylobacter, E. coli, and salmonella.

Viruses: The most common waterborne viruses are hepatitis, yellow fever, polio (myelitis), rotavirus, and norovirus. Viruses are much smaller than bacteria. The average size of a virus is from 0.004 to 0.100 microns. They are easily removed by boiling or by chemical treatments. However, because of their extremely small size, they can pass through most water filters. Occasionally, some viruses will cling to other larger particles in the water which can be filtered out.

The incubation period prior to becoming extremely sick as a result of ingesting one of the above pathogens varies from a few hours to a few weeks, depending on the

pathogen itself and the concentration ingested. Common symptoms include fatigue, fever, cramps, diarrhea, dehydration, and nausea. If not properly treated by a medical professional, these pathogens can eventually cause fatalities.

If you are in a remote area or if you can't get to a doctor quickly, then stay warm, drink plenty of safe fluids, and rest. You can help control the diarrhea with over-the-counter anti-diarrheal medicines, and you can take over-the-counter pain relievers to help reduce the fever and minimize other associated discomforts. However, you should plan to get to a medical doctor as soon as possible.

Ways To Purify Water

You will need pure water for the following:

1. For drinking
2. Making beverages
3. For cooking
4. Brushing your teeth
5. Washing your hands and face
6. Washing your cook pots, dishes, and eating utensils.

If your source of water is relatively cloudy or muddy (high turbidity) then allow it to stand in a large pot for twelve hours to let the foreign particles settle to the bottom of the pot. Then slowly and carefully scoop the water out of the top of the pot without disturbing the sediment on the bottom.

Regardless of which of the following methods you use to purify your water, the first step is always the same. Begin by pouring your water through a standard paper coffee filter, or through a clean pillow case, or through a piece of denim cloth material. This will trap and remove any large impurities in the water. The same coffee filter can be used over and over again for several days (unless the water is muddy or dirty).

After you have pre-filtered your water, then you may use one of the following options to purify your water.

Boiling kills Protozoa, Bacteria, and Viruses. Does not neutralize harmful chemicals.

Boiling is the BEST method for killing ALL the pathogens in the water. Even the most expensive commercially available water filter can't make that claim. Therefore, let's examine this method very carefully.

All pathogens die rapidly at 185°F. Some pathogens die at lower temperatures. By the time the water has reached its boiling point (even at low barometric pressures), all the pathogens in the water are already neutralized.

Therefore, bring your water to a boil and let it hard boil for 1 minute. Or hard boil for 2 minutes on top of an extremely high mountain at very low barometric pressures. Boiling for more time doesn't help, and it results in more water being lost as steam, and it makes the water taste flatter. All pathogens are already dead by the time the water reaches its boiling point. There is no benefit to a pathogen being "more" dead.

Wait patiently for the water to gradually cool to a comfortable drinking temperature.

How to Improve the Taste of Boiled Water:

1. Stir the water to add oxygen back into it.
2. Pour the water from one clean sterile container into another several times.
3. Add a little salt to the water.
4. Add 50 mg of Vitamin C to a quart of water.
5. Add Kool-Aid (10% Vitamin C) or Tang (100% Vitamin C) to the water.

Liquid Chlorine Bleach (Sodium Hypochlorite)

Either 5.25% or 6% strength kills bacteria and viruses.

Not effective against all Protozoa.

Does not neutralize harmful chemicals or radiation contamination.

For relatively clear water - Use 2 drops of bleach per quart of water or 8 drops per gallon (or 1 teaspoon per 10 gallons).

Cloudy Water - Use 4 drops of bleach per quart of water or 16 drops per gallon (or 2 teaspoons per 10 gallons).

The water should not be too cool. The water temperature should be 70°F or higher. If necessary, put the water in direct sunlight to raise the water temperature. The effectiveness of chlorine at killing pathogens diminishes rapidly at lower temperatures. Add the required number of drops of chlorine liquid bleach (Clorox or store brand, unscented) to the water and wait one hour for the bleach to kill all the tiny organisms. If you can detect a faint chlorine smell in the water at the end of one hour, then it is safe to drink.

If you can't smell the chlorine, then add the same amount of bleach a second time and wait another hour. If you can detect a faint chlorine smell, then the water is safe to drink. If you still can't detect the smell of chlorine, then discard the water because it contains too many germs. (Note: Always start with the minimum recommended

amount of bleach and add a little more if necessary. Too much chlorine is harmful to your body.)

Dry 68% Calcium Hypochlorite Granules

This is the **shock** treatment chemical used in swimming pools.

It kills Bacteria and Viruses.

Not effective against all Protozoa.

Does not affect either harmful chemicals or radiation.

The same advice as above about water temperature applies.

Put a pinch between thumb and finger of 68% Calcium Hypochlorite granules into one gallon of water. Wait one hour.

Again do the smell test and add more if you do not smell the chlorine. After the second hour, discard the water if there is no chlorine smell.

The shelf life of liquid bleach (sodium hypochlorite) is much shorter than the dry 68% Calcium Hypochlorite granules. Therefore, if you wish to store hypochlorite for emergency purposes, the best choice is the dry granules.

Good To Know Tip: If you only have dry 68% Calcium Hypochlorite granules, and for some reason you need liquid bleach, then you can dissolve one-ounce of 68% granules in one-pint of water and you will have a 5.25% liquid bleach solution.

Tincture of Iodine 2%

Kills Bacteria and Viruses.

Not effective against all Protozoa.

Will not neutralize harmful chemicals or radiation.

For relatively clear water - Use 4 drops of iodine per quart of water or 16 drops per gallon.

For cloudy water - Use 8 drops of iodine per quart of water or 32 drops per gallon.

Water temperature (should be 70°F or higher) affects its ability to purify water.

Iodine has a printed expiration date on the bottle. When that date has expired, the iodine will have lost some or most of its original strength. Therefore, iodine is generally not the chemical of choice for long-term survival situations.

Caution: Iodine water treatment methods can NOT be used by pregnant women, or nursing mothers, or individuals with thyroid conditions. In addition, long-term exposure to iodine can contribute to liver damage.

Although iodine is one way to purify water, it is NOT a preferred method. Any of the above methods is superior to the use of iodine.

Water Purification Tablets

Most commercially available water purification tablets are based on the use of either chlorine or iodine as their primary active ingredient. Both chlorine and iodine have a relatively short shelf life before they begin to lose their full strength and effectiveness. If you happen to have some of these tablets and they have passed their expiration date, then you should replace them.

Make sure you do NOT recontaminate your pure water by allowing it to touch a pot, or spoon, or anything else that has been in contact with the unpurified water.

And then there are water filters...

The best overall method for improving the quality of water is to use a commercial water filter. The problem is they can be very expensive, so not all of us can really afford them. That is why it is recommended that you build your own water filter.

The clay pot biological filter

This water filter design produces very clean drinking water from very contaminated water. The design is easy to replicate, and it is cheap enough for people to afford themselves. It is environmentally friendly and sustainable using local materials. It uses clay pots and sand to host beneficial biology that naturally colonize the pots and purify the water.

Construction

The nadi (large clay pot) used for the filter must be 32 to 34 inches tall. A hole is made for the pipe in the side of the nadi using a screwdriver and a suitable stone or hammer. The bottom of the hole must be 20 inches above the ground. A single piece of stiff flexible pipe 30 inches long, 1 inch in diameter, and with no splits in it, is fitted through the hole with one end inside the nadi, touching the bottom. It is put in place and the hole around the pipe is made water tight with cement.

A water storage pot for the filtered water must be chosen. If it is a nadi with a tap, it should be put up high enough for a jug to go under its tap. Put this clean water storage nadi on enough bricks to make this possible. The filter nadi can then be put in place on enough bricks for the protruding pipe to be just above the top of the storage nadi.

Potato size washed stones are placed in a single layer one stone deep at the bottom of the nadi. The gaps between them form channels for the water to flow easily into the pipe.

Small washed stones are placed on top filling the gaps between the potato size stones. Enough should be placed to prevent the next layer of gravel from falling through and blocking the gaps under the potato sized stones or clogging up the pipe.

A thin layer of washed, bean size gravel is then spread to form a level surface over the small stones. A thin layer of washed, seed size gravel is then spread to form a level surface over the gravel below.

These drainage layers must not exceed 4 inches in total thickness or there will not be enough room for the main material, the sand.

Washed sand is then added to a level 5 inches below the level where the pipe goes through the side of the nadi.

The mutca (water carrying clay pot) is taken and a single hole is drilled in it using a 3 or 4 inch nail with a right angle bend in it to form a handle. At first this is difficult work but after a few minutes the hole is made without the need to hit it through with a hammer.

Most screw drivers make holes that are too large, so a nail is better. The hole should be on the bottom of the mutca about 4 inches to one side so as not to get blocked too frequently by debris settling in the mutca.

The mutca is then tied in place on top of the nadi with the hole in the mutca in line with the pipe coming out of the nadi. A stone is wedged between the mutca and nadi so that the hole in the mutca can be seen and so that it is easy to notice if the hole becomes blocked.

String must be used to fix the mutca in place in order to protect the good microbes in the nadi from being disturbed by childrens' hands or other mishaps. A cloth is tied over the mouth of the clean water storage nadi in such a way that the cloth is over the protruding pipe. The water should not be flowing onto the cloth at all, as this would re-contaminate the clean water. The mutca can also be covered in thin cloth to screen out debris.

How to use it properly

Once dirty water has been given to the nadi every day for two to three weeks, the filter will function effectively so long as the sand is not disturbed.

During this period the water will gradually improve. If the sand and stones were well washed, water can be improved a little by the filter even on the first day. The nadi for storing clean water should be emptied every three days during this initial period while water quality is rapidly improving.

Note: Pots for storing clean water should never be used for collecting dirty water.

When using a new nadi to make a filter, it should be first checked for leaks which should be repaired using cement. Never completely fill a new nadi or small cracks will develop. Only half fill it with water at first, then after two or three hours, fill it completely and check for leaks.

If the filter gets too slow or stops working, remove the top few inches of sand from inside the nadi. Wash the dirt out of this sand with water in a bucket or bowl and then put it back in the nadi. Make sure that the level of the sand in the nadi is restored to 5 inches below the bottom of the pipe where it comes through the side of the nadi.

When it becomes necessary to clean the sand in the filter, it is good if there is another filter in the community that can be used for the 2-3 weeks it takes for the filter to build up the good microbes again after being cleaned. Dirty water used for starting off a new or recently cleaned nadi can be put through the new one, then through an established one if it is necessary to drink this water.

For Best Results:

You need an even drainage by the layers of stones and gravel below the sand. This is so that the water does not take a short cut. The intention is for the water to be exposed to as many beneficial microbes living on the sand grains as possible.

A sufficient depth of sand is 12 inches. This provides enough material to build up a water purifying community of organisms.

The inside diameter of the filter should be 10 to 14 inches. (This allows approximately 15 liters to pass through in the first 30 minutes.)

A single piece of hose with no joins or splits. This provides an outlet for the clean water and ensures no recontamination as it rises up and out.

The hose outlet must be 5 inches above the top of the sand. The beneficial microbes are aquatic so the sand must always be under water. The organisms on the surface of the sand must not be disturbed by the water flowing in. 5 inches insures that the water level is maintained above the sand allowing an inch if the specifications are slightly off, 1.5 inches for evaporation and 2.5 inches depth of water to provides a buffer zone preventing the water flowing in from churning up the organisms living on the sand.

A hole in the main container at this level needs only a low pressure seal which is easy to achieve. Leaks are of less significance since a faulty seal will not re-contaminate the filtered water.

The top pot should have one small hole the diameter of a 3 inch nail. This prevents water flowing into the filter too fast so the top layer of sand is not disturbed. The bottom of the top pot and the top of the filter pot should be 10 to 12 inches above the level the pipe exits the filter. This provides the water pressure to drive the filter.

The top pot must be fixed in place to prevent the sand being tampered with. The clean water must be protected from recontamination. A light weight cloth over the top pot acts as a screen to prevent leaves blocking the small hole.

There should be a gap between the top pot and the filter to let in oxygen. This also means that the water flowing in is visible. If the small hole becomes blocked it is easily noticeable.

We have covered many ways to store your supplies before, but there are a few different strategies that are specific to storing water. Containers dictate how much space the water you store takes up. You can store tap water in many ways by learning about the different containers.

Storage Methods

Repurposed Containers

Repurposed containers are soda, juice, and other beverage containers that you fill with water for storage. These are not intended for long term storage. They are more likely to develop leaks than containers designed for durability. These containers are usually clear and if exposed to light, algae can grow in the water stored therein.

If you use these types of containers, rotate the water and keep them out of direct sunlight.

Boxes

Boxed water storage kits include a Mylar pouch that you fill with water. You put the pouch inside the box for storage. These have many benefits:

- Each box holds 5 gallons and is stackable. This gives you a small footprint. You can stack 20 gallons in a closet and still have useable space.

- The box keeps light out. No algae worries with long term storage.
- They are portable in case it is necessary for you to evacuate. They only weigh about 40 pounds--so even a couple of your children working together could move them.

Barrels

If you have the space, barrels are a good choice. You want to get barrels designed for water storage. They are made of food grade plastic and are light and algae resistant.

They come in many sizes: from 5-55 gallons. Make sure the ones you buy have a syphon and a spout. If they were not designed with them, you can purchase them separately.

Pouches

Mylar pouches come in different sizes and do not take up much room. These are similar to the pouches that come inside the boxed water storage kits. They are sturdy, but you should treat them gently to avoid leaks. Keeping in mind the danger of punctures, you can store them anywhere you have a bit of unused space.

Prepackaged Water

You can buy jugs and cases of bottled water at any market. These are fine for short term storage. They need to be rotated regularly.

Longer term options are:

- Canned water in a #10 can. It is specially packaged to have a shelf life of 30 years. The cans are stackable and there is no danger of leakage. They are pricey at about \$4 a can.
- Prefilled pouches have about 4oz of water. They work well with 'to go' kits and sustainability kits for a short-term evacuation. They cost between 25-35 cents apiece.
- Boxed drinking water comes in 4 oz and 8 oz portions. These have the same uses as the pouches but take up more room.

Short-term storage requires you keep up with your rotation and replacement when you use your stock. Remember the tip about filling the tub and other containers if you have warning. Water from the tub and non-food grade containers is for washing. (No, we do not mean take a bath in the tub. Washing means take a potful out and clean yourself up with it.)

Long Term Storage

With properly stored water intended for the long term, rotation is not a big deal. It is smart to rotate once in a while, if only to be sure you do not have an unnoticed problem developing. Your practice drills are the optimum time for rotation. Remember you will only use your survival supplies of food and water during a drill.

One of the problems that goes unnoticed is a bad taste. If a disaster does occur, you will quickly learn that just because something tastes off it is not necessarily “bad”. A quick way to improve the taste is to pour the water from container to container so the air can get to it. This aerates the water and usually improves the taste.

You can easily store enough food for years. The quantities of water you might need in a crisis are not as easy to put by. Do not worry though because now we are going to talk about how to find and collect water in addition to what you have stored.

Seeking Out And Gathering Supplementary Water

Of course, you will have your stash of water stored. Even during a short crisis, any number of things can happen where what you did store will not be enough to see you through until things return to semi-normal. Long-term disasters will probably guarantee that the water you stored is not going to stretch. It's very nearly impossible to store water for several months, let alone years.

Familiarize Yourself with Nearby Water Sources

The next few times you are taking a walk in your neighborhood or even driving around, look around for water sources. Most of us never give the location of water a second thought. After all, under normal circumstances, you always can stop and buy a bottle of water or get a drink from a public fountain wherever you go. A great idea to get the family involved is to play I Spy with the kids in the car or as you walk your local streets. Only limit the spying to sources of water. After all, if you are driving, you cannot realistically look around and water spot. Lakes and streams are obvious places to gather water. You will need to get deeper into the game than that though. Those easily visible locations could be contaminated or become so over time.

Besides, if you live in the city, streams and lakes are few and far between. Diversity is the key; so, think outside of the box.

A Good Old Fashioned Rain Barrel

Much of preparing to survive a crisis or disaster will have you thinking about life as your great grandparents knew it. Rain is an excellent source of supplemental water. Many parts of the country receive a good amount of rain regularly in the spring and fall.

Collecting rainwater only has four steps:

1. Collect the water.
2. Channel the water.
3. Purify the water you collect
4. Putting it in containers for storage.

You can find systems for collecting rainwater at survival stores or plans for very simple and inexpensive ones on the internet. Contrary to what some survival stores might lead you to believe, preparing for your families survival does not have to cost you a ton of money. Your ancestors did not have a \$5K water collection system on the family farm. Another thing to keep in mind is rainwater is useful for more than just gardening, if properly purified you can drink it too. It probably tastes better than the tap water in most areas of the country.



A basic bare bones method of collecting rain is to shorten up your down pipe from the rain gutter around your home and put the barrel under it to catch the water. Be sure to have more than just one barrel, more water drains off your roof than you realize. You want to catch as much as you can.

One of the benefits a commercial industrial system has is a provision for underground storage. You would bury a storage tank in the ground. Granted this assumes you have the yard area. It saves you from figuring out what to do with and how to move around a bunch of barrels, and it does allow you to store water without advertising the fact that you are doing so.

As we mentioned, you can do it yourself or you can find a commercial company to design and install a water collection system. Of course, you also have to think about whether the guy who installs your system is going to pay you a visit during the crisis because he knows you have water. Just something to think about whenever you have outsiders work on your survival preparations

Underground Water Still

This idea is probably new ground for many of you—a method of collecting water you never would have thought of on your own. It won't give you more than a quart, but in areas where it does not rain, whatever you can collect aids your family's chance for survival.

This is ideal in semi-arid locations of the country. Pick a sunny spot—full sun for several hours during the day is best. If it is naturally sloping, so much the better, but you are looking for at a spot that is at least flat.

You will need a container and some plastic sheeting. Collect a few rocks before you get started. This is something your kids can do if they want to help. If you do not have any suitable rocks on your property, it is time for a road trip.

You need to dig a sloping hole about 15 inches deep. Think of the combined shape of a bowl and a funnel because that is the principle here. Visualize whether your container will fit at the bottom and adjust the size and shape of your hole accordingly.



Place your container in the bottom of the hole and cover everything with your plastic sheeting. (The container is under the plastic.) Use the rocks you and your children collected around the perimeter of the plastic to hold it in place. Put one rock on the plastic directly above the container.

Every morning you should find that your container has a small amount of water in it from condensation. This water definitely needs to be purified before you use it. Often, it contains impurities or even bacteria.

Swimming Pools

Yes, you read that right. Your everyday backyard swimming pool has many hundreds and sometimes thousands of gallons of water just waiting to be collected. This is a source you want to keep your eye out for as you walk through the neighborhood.

You will have to take a few extra steps, but you can turn pool and even spa water into potable liquid. In all probability, there will be no power in a natural disaster or even some man-made ones. Despite the chlorine, pools grow algae quickly. You can still use the water; it just needs more work.

In some cases, pool water is safe to drink. If it is your pool and spa then you will know what chemicals you have used in it. For the pool down the street, the chemicals are a different proposition all together. According to the FDA, if the chlorine makes up less than 4 parts per million, you can safely drink the water.

It will still be necessary to boil the water from a pool or spa for a minute. Then, use a high quality water filter. When in doubt run it through more than once before drinking the water.

Hot Water Heaters

Unless you have one of the new tankless water heaters, your water heater is another source of emergency water in a crisis. Sizes vary, but you will always have at least 30 to 60 gallons of water on hand that you probably had not considered as part of your storage stash.

If you have never drained your water heater before, we recommend you take the time now when there is no pressure to learn how to drain the water out. The manual that came with your water heater should tell you and have everything labeled. If you do not have the paperwork anymore, you can find the directions easily online. It is very simple; there is a valve on the bottom just for this purpose, but it does require a hose and a container to collect the water.

Other Odd Sources

There are other 'stranger' sources that can give you water. Not all of the sources yield potable liquid, but with proper treatment some of them do. You never know and the more diversified your sources the more likely everyone in your family will live through the crisis.

Cactus- you may have seen cartoons where the characters get water from a cactus, usually with comical results. You can actually do that if you learn which cacti are safe to tap for liquid. If you live in a desert area of the US, you may already know this. Otherwise, you can find out from Wikipedia or other online source.



There are a few points to keep in mind. We already mentioned that some cacti specimens are poisonous. As you might imagine, there is a right and wrong way to get the liquid out for each kind. You will need to learn this lest you waste your time and the water from the cactus. It goes without saying you will need some tools. A machete is a must for tapping a cactus because of the spines.

Drain Pipes- this is a last resort suggestion. You can access any water left in your pipes in a pinch. If it is serious crisis, you won't be getting any city water from the tap any time soon.

Urine-There are plenty of survival stories about drinking urine. There was even an episode about it on Domsday Preppers. Yes, urine is a waste product and the thought of using it for survival probably makes you gag. It is easy to think that when most of us have never been truly thirsty in our lives. Believe it or not some of the higher end filtration devices can make urine 'almost clear and drinkable'.

When push comes to shove, you can filter urine through a piece of fabric filled with pulverized charcoal. Just take a pair of jeans, put the charcoal inside and crush it into a powder. Pour the urine through it. Obviously, this does nothing for either the color or the taste, but it beats dying of thirst.

There are some other points to remember:

- Drink it ASAP. Bacteria will grow if it sits around.
- Once you begin drinking urine, with every pass through it becomes less potable. Logically, the ratio between the waste concentration and water percentage increases.
- If you do have a higher quality water filter, use it. If you run it through multiple times you will be happier, and prolong the viability of the process.

Treating Water

Which brings us to the topic of making water drinkable... Water that sickens your family is not going to help your chances of survival especially without access to medical care. There are herbal remedies, but they work slowly over time. We are going to discuss several water treatment methods.

Boiling-When you boil water, it kills bacteria and pathogens. You must boil the water a minimum of 3-5 minutes. Put the lid on to minimize the evaporation process. If you can, run the water through a filter. It is liable to look cloudy and have stuff floating in it anyway after boiling.

Filters- As crummy as tap water tastes in most of the country, you probably have some form of water filter at home already. The cost for these is negligible. Unfortunately, with filters for treating water you get what you pay for and the type of high quality filters you need for your survival gear can run you anywhere from a couple of hundred to several thousand dollars. Sorry...there's just no way to sugar coat the truth of the matter. You will have to decide what level of quality you are willing to invest in then shop around. You might be lucky enough to catch a sale to make the purchase less painful.

You will need two types of filters. One will be a small, portable pump. You will see this type sold at sporting goods stores with the camping gear. The more expensive type is larger and can handle the realistic volume of water you will need to purify in the event that a serious disaster or crisis happens. Remember the one you use in the kitchen now is not designed to filter out the type of harmful contaminants that could be present in water under emergency conditions.

We remind you, you can live much longer without food than water. Emergency preparedness and the survival of your family elevates these to one of your earliest purchases when you begin to build your survival kit.

Chemicals- Earlier, we mentioned the two chemicals that are old time methods to treat water when we talked about buying your survival supplies. They are bleach and iodine. Iodine doubles as a topical medicine. It kills bacteria in wounds as well as in water. Certain members of your family may not be able to drink water treated with iodine safely. Some people are allergic to it. The elderly, pregnant, and lactating women should avoid water purified with iodine. Iodine needs to be stored at the proper temperature and kept out of the sunlight. It usually comes in a thick brown glass bottle to protect its potency from the harmful effects of sunlight.



Chlorine bleach is simple to use on water. The ratio is two drops to one quart of water. The water needs to sit for 30 minutes before use. Check it when the time is up. If it still looks cloudy to you, add a couple more drops and let it sit again for another half an hour.

Bleach deteriorates quickly. If you do not use it in your household, you will have to rotate it out every three to six months.

In a pinch filters-You can use any cloth as a filter to sieve out the debris from water. You might not have another option. Just remember this does nothing to protect you from chemical contaminants or bacteria.

Stretching Your Water Supply

If you have lived in a part of the country that has experienced several years of limited rainwater, you will have an easier time adapting to this next advice. You've had some experience with rationing and conserving water. You and your family need to use your supply of water sparingly. In a crisis or disaster, you won't be able to just turn on the tap to get more.

Tips to control water use:

1. Find a way to ration your drinking water. This could mean getting a canteen for each family member. Figure out how often you can drink during the day to stretch the supply. If someone needs more...let them drink. People have conserved so much they died of thirst with water in their canteen. Your body is the best judge of hydration not some equation on a slip of paper.
2. Normal baths or even showers are a thing of the past during a disaster or crisis. (at least, until help arrives and some normalcy returns) That doesn't mean you don't wash; it just means you wash up— "pits and privates" my Dad used to say...

Adopt the Pioneer Mindset

When you practice, that is the time to convince your family that you've taken a trip in the 'way back machine'. Tell them stories of your family from long ago or stories from movies about how everything had to be gathered. All water had to be collected and brought to camp or home. Access to water was what determined where people lived. Survival depends on planning for the worst, even if you have an extensive stash of water stored and a plan for how to supplement it. You don't want to waste any of it.

Grey Water-If you have a survival garden, you will need water for your plants. Grey water is an excellent way to get two uses from the same amount of water. Grey water is what's left over after cleaning your clothes, dishes, or personal wash up. It is safe to use on older established plants. Try not to pour it on the plants; water around them. Seedlings need cleaner water.

Don't Forget to Practice

Drills on survival water are as important as food. You should practice at least twice a year. Maybe more than that, at first, if you have children. Kids are great water wasters. Most of them will need lots of practice to retrain their thinking. Just turn the water off in your house and use just stored water and water you collect. You can learn how to purify your collected water without any pressure. Your spouse and older children can learn the procedures as well.

Remember the unknown and unfamiliar is scary. The more everyone in your family takes part in these drills the less stress they will feel when they have to put their knowledge into practice. Let's be honest, when disaster or a crisis does hit, there's going to be more than enough to be stressed about just with the situation. Doing a bunch of unfamiliar things for eating, cooking, and drinking doesn't need to add to everyone's stress level. Have the conservation fights before the disaster strikes, not during it.

Make a plan and get started. Start your survival water storage today. It can mean the difference between life and death for your family.

Natural Disasters

One of the most obvious events you need to prepare for is a natural disaster. Many times seeing one of these events play out in another part of the country or a nearby region of the state you live is the hook that gets you thinking about emergency preparedness.

Emergency Health Preparedness Is Declining

Whenever a major event happens, the first words out of the mouths of those affected are..."We need more funding for XYZ." A recent report from two non-profit agencies revealed that even with funding the ability of first responders, health professionals, and hospitals to respond meaningfully to a health threat accompanying a disaster like Sandy or a more obvious health issue is not improving noticeably.

Public health preparedness is the ability of hospitals, health departments and others to prevent and respond to emergencies ranging from bioterrorism to influenza outbreaks to catastrophic weather. The study investigated how many of 10 key benchmarks a state met. The benchmarks included whether it holds drills for quick response from public health workers to a catastrophic release of radiation or whether its labs can work overtime to identify a mystery disease.

The results are disquieting. Preparedness has slipped since 2010. 17 states met at least nine benchmarks and 25 met seven or eight. No state met fewer than five. By way of contrast this year, only 5 states, Maryland, Mississippi, North Carolina, Vermont and Wisconsin scored highest, meeting eight out of 10 but thirty-five states met fewer than seven of the 10 benchmarks. Kansas and Montana brought up the rear meeting just three.

As you might expect this was a policy that was heavily influenced by the events of 9-11 and subsequent acts of bioterrorism like the anthrax scare . In fact, health preparedness basically became getting ready for bioterrorism.

One of the study's authors points out that we have developed tunnel vision and are not giving everyday threats like influenza, food poisoning, and extreme weather sufficient attention. If you don't believe it, the true of this is evident in the recent flu epidemic. Several states declared a health emergency and the residents of over 47 states were affected.

Based on the two events, the federal government started giving states more than \$1 billion annually in 2002. To date, the states have received \$13.6 billion for prevention and response to public health threats. But, as often happens with federal money, the tight restrictions show a distinct lack of common sense. For example, if a state worker was working on biodefense aimed at a bioterrorism attack, that worker could not work

on anything else. Attention and resources moved away from preparing for all hazards to biodefense only.



During the past decade, states became more prepared for public health disasters than they were. Since then, they improved their capability to identify a rare disease in time to impose quarantines and trace its spread.

The recession has slashed tax revenues since 2008, and 48 states have cut their health budgets. The federal money for state and local preparedness, which goes to the states through the Centers for Disease Control and Prevention, has decreased 38% since 2005 and well over 45,000 health department employees have lost their jobs. That is one out of every five state public health jobs.

Both of these facts have taken their toll. There are currently whooping cough outbreaks in Wisconsin, Vermont and Washington. None of them meet the benchmark of a 90% immunization rate for toddlers. When it comes to readiness for a disaster related to climate change (think Sandy or tornadoes in December), just 15 states have plans on adapting to climate change. You guessed it, New Jersey which was one of the hardest hit by Sandy, is not one of them.

The news gets worse. The swine flu (H1N1) outbreak in 2009 proved America cannot produce a flu vaccine in time to handle an unexpected outbreak. The vaccine was manufactured and made available in record time, but still not fast enough to affect the epidemic. The disease just stopped spreading on its own. Even more disturbing, 13 states do not have the staff to work 12 hour days for six to eight weeks to identify, track an outbreak, and impose quarantines.

The everyday threats public health departments and health care providers face repeatedly are being ignored. In addition to extreme weather and food borne illnesses, just a few of the recent examples include West Nile virus, a fungal meningitis outbreak and a resurgence of old diseases like whooping cough and tuberculosis. Frightening when you consider antibiotic resistance among disease strains is growing more prevalent.

With all this in mind, don't you owe it to yourself and your family to prepare now for their survival? The following are tips for preparation and surviving natural disasters and other crises.

Earthquakes

When most people think of earthquakes, they think of California and Alaska, but more and more states that have rarely experienced an earthquake are being hit by them. A new United States Geological Survey study has found that middle America between Alabama and Montana is experiencing an "unprecedented" and "almost certainly manmade" increase in earthquakes of 3.0 magnitude or greater. In 2011, there were 134 events of that size. That's six times more than were normally seen during the 20th century.

The trend has really accelerated since 2009. That happens to coincide with increased oil and gas production using new extraction techniques in some parts of the area. In some regions, the increase in earthquakes is even greater than six fold. For example, in Oklahoma over the past half-century, there were an average of 1.2 quakes of greater than 3.0 magnitude per year. Since 2009, there have been more than 25 per year. The government geologists say the magnitude of increase in events is unprecedented outside of volcanic settings or in the absence of a main shock. Neither occurred in the region.

California has monthly earthquake drills in the schools, but if you live in one of the other parts of country where earthquakes are a new occurrence, surviving an earthquake and reducing its health impact requires preparation, planning, and practice. Far in advance, you can gather emergency supplies, identify and reduce possible hazards in your home, and practice what to do during and after an earthquake. Learning what actions to take can help you and your family to remain safe and healthy in the event of an earthquake.

What Happens In An Earthquake

The biggest danger is buildings falling down. When buildings collapse, the weight of the ceilings fall upon objects or furniture, crushing those objects and leaving a space or void next to them. This space is a triangle of life.

The larger the object, the stronger it is and the less it will compact. The less the object compacts, the larger the void and the greater the probability that the person who is using this void for safety will not be injured. The next time you watch collapsed buildings, on television, count the triangles you see formed. They are everywhere. It is the most common shape, you will see, in a collapsed building.

Indoor Safety

If you are inside, stay inside. DO NOT run outside or to other rooms during shaking. In MOST situations, you will reduce your chance of injury from falling objects and even building collapse if you immediately:

- **DROP down onto your hands and knees** before the earthquake knocks you down. This position protects you from falling but allows you to still move if necessary.
- **COVER your head and neck** (and your entire body if possible) get down near an interior wall or next to low-lying furniture that won't fall on you, curl up, and cover your head and neck with your arms and hands.
- **HOLD ON to your shelter** (or to your head and neck) until the shaking stops.

Contrary to what you may have heard **DO NOT stand in a doorway.** You are safer under a table. In modern houses, doorways are no stronger than any other part of the house. The doorway does not protect you from the most likely source of injury, falling or flying objects. Most earthquake-related injuries and deaths are caused by falling or flying objects (e.g., TVs, lamps, glass, bookcases), or by being knocked to the ground.

You can take other actions, even while an earthquake is happening, that will reduce your chances of being hurt.

- If possible within the few seconds before shaking intensifies, quickly move away from glass and hanging objects, and bookcases, china cabinets, or other large furniture that could fall. Watch for falling objects, such as bricks from fireplaces and chimneys, light fixtures, wall hangings, high shelves, and cabinets with doors that could swing open.
- If available nearby, grab something to shield your head and face from falling debris and broken glass.
- If you are in the kitchen, quickly turn off the stove and take cover at the first sign of shaking.
- If you are in bed, roll off the end, curl up, and protect your head with a pillow. You are less likely to be injured staying where you are. Broken glass on the floor has caused injury to those who tried to get to doorways.

Outdoor Safety

If you are outside, stay outside, and stay away from buildings. The area near the exterior walls of a building is the most dangerous place to be. Windows, facades and architectural details are often the first parts of the building to collapse. Also, shaking can be so strong that you will not be able to move far without falling down, and objects may fall or be thrown at you. Stay inside if you are inside; outside if you are outside.

If outdoors, move away from buildings, utility wires, sinkholes, and fuel and gas lines. The greatest danger from falling debris is just outside doorways and close to outer walls. Once in the open, get down low (to avoid being knocked down by strong shaking) and stay there until the shaking stops.

Automobiles

If you are in a moving automobile, stop as quickly and safely as possible. Move your car to the shoulder or curb, away from utility poles, overhead wires, and under- or overpasses. Stay in the car and set the parking brake. Turn on the radio for emergency broadcast information. A car may jiggle violently on its springs, but it is a good place to stay until the shaking stops. If a power line falls on the car, stay inside until a trained person removes the wire.

When you drive on, watch for hazards created by the earthquake, such as breaks in the pavement, downed utility poles and wires, rising water levels, fallen overpasses and collapsed bridges.

Inspecting for Possible Home Hazards

An important step in earthquake preparedness is to inspect your home and its surroundings for possible hazards and then take action to lessen those hazards. Remember: anything can move, fall, or break during an earthquake or its aftershocks.

The following is a basic checklist to help you identify and correct possible home hazards. Look for the following hazards in each room:

- Windows and other glass that might shatter
- Unanchored bookcases, cabinets, refrigerators, water heaters, and other furniture that might topple
- Heating units, fireplaces, chimneys, and stoves that could move or fall
- Areas that could be blocked by falling debris

Securing Appliances

- Secure your large appliances (like a water heater) with flexible cable, braided wire, or metal strapping.
- Install flexible gas and water connections on all gas appliances. This will significantly reduce your chances of having a major fire after an earthquake.
- Brace and support air conditioners, particularly those on rooftops.

The typical water heater weighs about 450 pounds when full. In an earthquake, the floor on which it is standing tends to move out from under the heater, often causing it to topple. The movement can also break the gas, electric, and water-line connectors, posing fire or electric shock hazards, and can shatter the glass lining within the water heater.

Hanging and Overhead Items

- Inspect and anchor overhead light fixtures, such as chandeliers or ceiling fans.
- Move heavy mirrors and pictures hanging above beds, chairs, and other places where you sit or sleep. Otherwise, anchor these items with wire through eyescrews bolted into wall studs. Or place screws on both sides, top, and bottom of the frame and screw these into the studs.
- Determine whether the full swing of your hanging lamps or plants will strike a window. If so, move them.
- Secure hanging objects by closing the opening of the hook.
- Replace heavy ceramic or glass hanging planters with light-weight plastic or wicker baskets.

Shelves, Cabinets, and Furniture

- Identify top-heavy, free-standing furniture, such as bookcases and china cabinets, that could topple in an earthquake.
- Secure your furniture by using: "L" brackets, corner brackets, or aluminum molding to attach tall or top-heavy furniture to the wall. Use eyebolts to secure items located a short distance from the wall

- Attach a wooden or metal guardrail on open shelves to keep items from sliding or falling off. Fishing line can also be used as a less-visible means of securing an item.
- Place heavy or large objects on lower shelves.
- Use Velcro fastenings to secure some items to their shelves.
- Secure your cabinet doors by installing sliding bolts or childproof latches.

Hazardous Materials

Identify poisons, solvents, or toxic materials in breakable containers and move these containers to a safe, well-ventilated storage area. Keep them away from your water storage and out of reach of children and pets.

Learning to Shut Off Utilities

- Know where and how to shut off utilities at the main switches or valves. Check with your local utility companies for instructions.
- Teach all family members how and when to shut off utilities.

Gas

- An automatic valve (Earthquake Command System) is commercially available that will turn the gas off for you in the event of an earthquake.
- After an earthquake, DO NOT USE matches, lighters, or appliances, and do not operate light switches until you are sure there are no gas leaks. Sparks from electrical switches could ignite gas, causing an explosion.
- If you smell the odor of gas, or if you notice a large consumption of gas being registered on the gas meter, shut off the gas immediately. First, find the main shut-off valve, located on a pipe next to the gas meter. Use an adjustable wrench to turn the valve to the off position. Many Californians leave a wrench secured to the gas main for this purpose.

Note: In many states if you turn off the gas, you will need the gas company to come out and turn it back on. This may leave you without gas for several days or longer depending on the extent of the damage from the earthquake.

Electricity

After a major disaster, shut off the electricity. Sparks from electrical switches could pose a shock or fire hazard. Carefully turn off the electricity at the main electrical breaker in your home.

Water

Water may be turned off at either of two locations:

- At the main meter, which controls the water flow to the entire property; or
- At the water main leading into the home. (Shutting off the water here retains the water supply in your water heater, which may be useful in an emergency.)

Attach a valve wrench to the water line. (This tool can be purchased at most hardware stores.) Also, label the water mains for quick identification.

10 Tips For Earthquake Survival

1. Everyone who simply "ducks and covers" when a building collapses will be crushed to death - every time, without exception. People who get under objects, like desks or cars, are always crushed.
2. Cats, dogs and babies naturally curl up in the fetal position. You should, too, in an earthquake. It is a natural safety/survival instinct. You can survive in a smaller void. Get next to an object, next to a sofa, next to a large bulky object that will compress slightly but leave a void next to it.
3. Wooden buildings are the safest type of construction to be in during an earthquake. The reason is simple: the wood is flexible and moves with the force of the earthquake. If the wooden building does collapse, large survival voids are created. Also, the wooden building has less concentrated, crushing weight. Brick buildings will break into individual bricks. Bricks will cause many injuries but less squashed bodies than concrete slabs.
4. If you are in bed during the night and an earthquake occurs, simply roll off the bed. A safe void will exist around the bed. Hotels can achieve a much greater survival rate in earthquakes, simply by posting a sign on the back of the door of every room, telling occupants to lie down on the floor, next to the bottom of the bed during an earthquake.

5. If an earthquake happens while you are watching television and you cannot easily escape by getting out the door or window, then lie down and curl up in the fetal position next to a sofa, or large chair.
6. Everybody who gets under a doorway when buildings collapse is killed. Why? If you stand under a doorway and the doorjamb falls forward or backward you will be crushed by the ceiling above. If the door jam falls sideways you will be cut in half by the doorway. In either case, you will be killed.
7. **Never go to the stairs.** The stairs have a different "movement of frequency," (they swing separately from the main part of the building). The stairs and remainder of the building continuously bump into each other until structural failure of the stairs takes place. The people who get on stairs before they fail are chopped up by the stair treads. They are horribly mutilated. Even if the building doesn't collapse, stay away from the stairs. The stairs are a likely part of the building to be damaged. Even if the stairs are not collapsed by the earthquake, they may collapse later when overloaded by screaming, fleeing people. Maintenance should always check stairs for safety, even when the rest of the building is not damaged.
8. Get near the outer walls of buildings or outside of them. If possible it is much better to be near the outside of the building rather than the interior. The farther inside you are from the outside perimeter of the building the greater the probability that your escape route will be blocked.
9. People inside their vehicles are crushed when the road above falls in an earthquake and crushes their vehicles; which is exactly what happened with the slabs between the decks of the Nimitz Freeway. The victims of the San Francisco earthquake all stayed inside of their vehicles. They were all killed. They could have easily survived by getting out and sitting or lying next to their vehicles. Everyone killed would have survived if they had been able to get out of their cars and sit or lie next to them. All the crushed cars had voids 3 feet high next to them, except for the cars that had columns fall directly across them.
10. Believe it or not paper does not compact. Large voids are found surrounding stacks of paper.

Some Specific Situations

Impaired mobility

If you cannot drop to the ground, try to sit or remain seated so you are not knocked down. If you are in a wheelchair lock your wheels. Protect your head and neck with a

large book, a pillow, or your arms. The goal is to prevent injuries from falling down or from objects that might fall or be thrown at you.

High-rise buildings

Drop, cover, and hold on. Move away from windows and outside walls. Stay in the building. The electricity may go out, and the sprinkler systems may come on. DO NOT use the elevators, but remember the stairs may be damaged as well.

If you are trapped stay calm. Try to get someone's attention by tapping hard on metal parts of the structure. That may increase your chances of being rescued.

Crowded indoor public places

Drop, cover, and hold on. Do not rush for the doorways. Others will have the same idea. Move away from display shelves containing objects that may fall. If you can, take cover and grab something to shield your head and face from falling debris and glass.

Stadium or theater

Stay at your seat and protect your head and neck with your arms, or any way possible. Do not leave until the shaking is over. Then walk out carefully watching for anything that could fall in the aftershocks.

Near the shore

Drop, cover and hold on until the shaking stops. Estimate how long the shaking lasts. If severe shaking lasts 20 seconds or more, immediately evacuate to high ground as a tsunami might have been generated by the earthquake. Move inland 2 miles or to land that is at least 100 feet above sea level immediately. Don't wait for officials to issue a warning. Walk quickly, rather than drive, to avoid traffic, debris and other hazards.

Below a dam

Dams can fail during a major earthquake. Catastrophic failure is unlikely, but if you live downstream from a dam, you should know flood-zone information and have an evacuation plan.

Tsunami

You will notice we mentioned above an earthquake that shakes for an extended period of time is capable of generating a tsunami. You probably recall this happened in Japan in March 2011. It was the most powerful known earthquake ever to have hit Japan, and one of the five most powerful earthquakes in the world since modern record-keeping began in 1900. The earthquake triggered powerful tsunami waves that reached heights of up to 133 ft. and which travelled up to 6 mi inland in some areas. Of course the tsunami caused nuclear accidents at three reactors (level 7 meltdowns) in the Fukushima. This was truly a triple whammy of a natural disaster/crisis. It perfectly illustrates that a major event seldom is just one occurrence; very often other crises arise as a result.

A tsunami is a series of destructive and very dangerous waves that result from earthquake activity or some other type of underwater disturbance (meteorite, landslide, underwater volcanic activity etc.). Although they are commonly called tidal waves, this is not accurate. The moon's gravitational pull on the tides has nothing to do with tsunamis. Although a tsunami's impact upon a coastline is



dependent upon the tidal level at the time a tsunami strikes, tsunamis are unrelated to the tides. Seismic They are also sometimes called seismic sea waves but a tsunami can be caused by other things besides earthquakes such as a landslide or meteorite impact. In recent years, tsunamis have caused an incredible amount of damage.

Learn about the potential for danger in advance. Do you live somewhere that could potentially face a tsunami? It is likely that you are at some risk if your home, school, or workplace is in a coastal region, near the sea.

The elevation of your home, school or workplace is at sea level or fairly low and on flat or only slightly undulating land. If you don't know the elevation level of your home, school or workplace, find out. Some local authorities use elevation as a warning indicator.

Natural sea barriers such as levees or dunes have been removed for development.

Your coastal region has a history of past tsunamis. Do some library research or ask at the local government office. FEMA has a website enabling online flood risk searches.

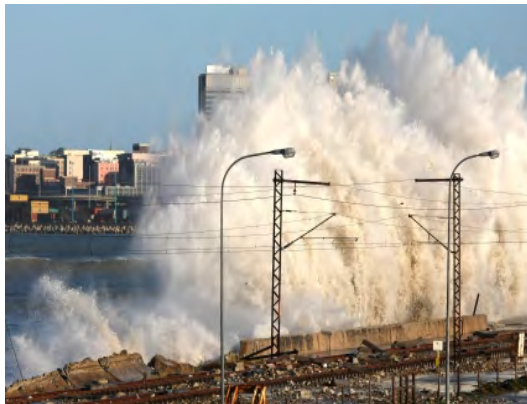
If your research demonstrates that you are at risk, prepare both an evacuation plan and a go bag of survival supplies. We will go into greater detail at the end of this guide about what you will need in your pack. A go bag is crucial for survival for very disaster or crisis. Keep it somewhere obvious, well-known to everyone and easy to grab in an emergency. Ideally, you will have one for each person in the family.

Develop a personal evacuation plan

An evacuation plan must be prepared in advance to be of use. In developing one, consider your family, your workplace, your school and your wider community.

Actions should include:

Move inland, and to high ground. Immediately leave the coast, lagoons or other bodies of water next to the coast. This means going up to higher ground and even into hills or mountains. Always head away from the coast and keep moving inland.



Climb high. If you cannot head inland because you are trapped, head to the top of the structure. Although not ideal, if this is your only option, choose a high, sturdy and solid building and climb up it. Go as high as you possibly can, even onto the roof.

Climb a sturdy tree. As a very last resort, if you find yourself trapped and unable to move inland or climb a high building, find a strong and tall tree and climb up it as high as you can. There is a risk of trees being dragged under by the tsunami, however, so this really is a measure to be used only if all other alternatives have been rendered useless. The stronger the tree, the higher it will allow you to climb and the sturdier its branches for resting on (you may be there for hours) and the better chances you will have of surviving.

React quickly if you are caught up in the water. If you did not manage to evacuate but find yourself caught up in the tsunami for one reason or another, there are things that you can do to try and survive:

Grab onto something that floats. Use a floating object as a raft to keep yourself above the water. Items that float such as tree trunks, doors, fishing equipment etc. may be in the water with you.

Abandon belongings. Save lives, not possessions. Trying to retrieve things and belongings may hamper your escape by causing you to lose valuable time. Grab your safety pack, something to keep you warm, your family and leave immediately.

Keep away until the "all clear" signal is broadcast. A tsunami comes in waves. There may be many, many waves lasting for hours and the next wave may be even larger than the last.

Try to get reliable information. Listen to the radio for updates on what is happening. Do not trust word of mouth. It is better to wait than to return too early and be caught by more incoming waves.

Wait for local authorities to issue an "All Clear." Only then should you return to your home. Find out in advance how local authorities propose to announce such a notice. Remember that roads may be extremely damaged by the tsunami waves and you may have to take alternative routes. A good pre-planned emergency plan should account for this possibility and provide alternative routes and gathering places.

Conduct practice drills to ensure that all members of your family are clear about what they need to do and where they need to go during a safety evacuation. Remember, disasters seldom happen when the family is all together in one place. You and your spouse could be at work and your children could be in schools all over town.

Remember to provide multiple safety routes out and back owing to the possibility of an earthquake destroying roads and other infrastructure, preventing exit using some routes.

Heed Natural Warnings

Natural warnings can help to indicate the imminent arrival of a tsunami. Be aware that in many cases, these may be the only warnings you will get as safety authorities may not have a chance to get warnings and evacuation procedures implemented. Be responsible and do your best to keep yourself and your family, friends and colleagues safe. Natural signs that herald the possibility of a coming tsunami include:

An earthquake. If you live in a coastal zone, the occurrence of an earthquake should be immediate cause for alarm and evasive action.

A rapid rise and fall in coastal waters. If the sea suddenly recedes (draws back), leaving bare sand, this is a major warning sign that there is about to be a sudden surge of water inland.

Animal behavior changes. Watch for animals leaving the area or behaving abnormally, such as trying to seek human shelter or grouping together in ways they would not normally.

Heed Community And Government Warnings

If the local authorities do have time to issue a warning, take heed. Inform yourself in advance of how the local authorities plan to make warnings so that you do not mistake or ignore the warning when it comes.

Take action. If a tsunami is likely to make landfall on your coastal region, react immediately. Put into place your evacuation plan.

Your family needs to survive after the tsunami as well. Once the tsunami has subsided, there will be debris, destroyed buildings and broken infrastructure. There may also be dead bodies. Fresh water supplies may be destroyed or disrupted. Food supplies will most likely be unavailable. The potential for disease, post-traumatic stress disorder, grief, starvation, and injuries will make the post-tsunami period nearly as perilous as the tsunami itself. An emergency plan should also consider the aftermath and what you'll need to do to protect yourself and your family. The reality is that coping with the aftermath of a tsunami may start as an individual effort, but will eventually become a community one.

Quelling Fires And Gas Ruptures

If you are at the beach and see the tide receding strangely and completely, evacuate immediately; this is not an invitation to investigate but one to run in the opposite direction. If you see the tide go out quickly, it will soon come back and strike. Once the tide suddenly recedes, it is likely that you have only a couple of minutes at best before the tsunami arrives.

Evacuate your children, too. Strive to stay together. Give clear instructions, and make sure they know where to gather if you become separated. Because it may not be possible to hold onto little hands against an onslaught of water, teach your children in advance how to give themselves their best chance of survive if separated.

If a distant tsunami is detected, major cities are alerted a few hours or less before the tsunami hits. Heed these warnings! The first time you hear of a tsunami coming, grab your emergency kits and drive inland to a city/town where and stay there until the "all clear" is announced by authorities.

Whenever you hear an official warning of tsunami, don't ignore it or delay responding. Be ready to evacuate the area, and seek high, inland sanctuary. It is far better to prove that you were ready for a tsunami that does not materialize than to try to prove that

you're tougher or smarter than Mother Nature and to die in the attempt. Do not run into the water to save anything.

Don't wait for warnings. If you think a tsunami is coming evacuate immediately. The main cause of death during a tsunami is drowning. The second major cause is being battered by debris.

Floods

When you think of weather related disasters, you may think that the most dangerous of these are tornadoes, earthquakes or hurricanes. Many are surprised to learn that flash floods are the top weather related cause of deaths.

Flooding occurs in every state, and life-threatening floods are not limited only to areas that have been designated high risk areas. While there may be warning for some flooding, flash floods occur very quickly, making this type of flooding the most dangerous.

Being prepared for potential flooding and knowing what to do should a flood occur can be the difference between life and death. In this guide you will learn how to prepare for a flood and what to do if you get caught in a flood.

First, take a look at some flood-related facts.

- The average annual flood-related losses in the United States are just over \$2.7 billion
- Just 1 inch of water can cause serious damage to your home and property
- A car can be swept away by just a couple of feet of water
- Flash floods can create water walls of up to 20 feet in height

A variety of factors can lead to flooding including:

- Hurricanes
- Levee breach
- Rapid rainfall
- Clogged drain systems
- Wildfires

- Snowmelt

While keeping the potential causes of flooding in mind is helpful, remember that flash flooding can happen anytime without warning. For that reason, it is important to learn what you should do NOW and start to gather the items that you will need to keep you and your family safe both during and after a flood.

Flood Maps

When purchasing a home or land you will almost always be informed of where the property shows up on flood maps. These maps will tell you if you are in a high risk flood zone. If you do live in a high risk or special flood zone hazard area, then you will be required to have flood insurance as long as you have a mortgage on the property. But even if your home is NOT in a high risk area, flooding can still be an issue for you.

The National Flood Insurance Program states that 20% of all claims come from people who live outside of high risk areas. Because people outside of the high risk areas are much less likely to have flood insurance, the percentage of people outside high risk areas that are actually impacted by flooding is much higher.

While the flood maps can give you an idea about your general flooding risks, do not allow them to lull you into a false sense of security. Also, as will be discussed in other parts of this guide, the side effects of flooding can be just as dangerous as the actual flooding. These side effects can impact the entire region in which the flooding occurred.

Flood Warning Terms

One of the ways that you can stay safe during potential flooding is to understand the information that is being presented by authorities. Below is a list of some flood warning terms that you should understand.

Flash Flood Watch: This means that all of the conditions necessary to produce a flash flood exist. If you hear a flash flood watch is in effect you should start paying very close attention to your NOAA radio or your local news station.

Flash Flood/Flood Warning: A flood warning is issued when flooding is going to happen within 6 hours. This means that a flood is imminent.

Flood Hazard: You may hear the authorities discussing flood hazards. This is the degree to which damage or loss of life is likely.

Evacuation Terms/Orders

There is often advanced warning before flooding occurs. Of course, this is not always the case, but when authorities know that there is a strong potential for serious flooding, they may issue evacuation order to people who live in areas that will be impacted by flooding.

There are 3 basic types of evacuation orders.

Voluntary: A voluntary evacuation means that flooding is not imminent, but that conditions exist that could cause flooding. This type of evacuation order leaves room for your own discretion and can be updated to a mandatory evacuation order should the conditions change.

Mandatory: When a mandatory evacuation order is issued that means that flooding is imminent. If such an order is issued for your area, it means that your home is potentially in the path of the flooding. While you will not be forcibly removed from your home, should you choose to stay no assistance will be provided by local police or fire departments.

Forced: This type of evacuation is rarely ordered, but when it is you should definitely leave. By the time a forced evacuation is issued, ALL people, including first responders, are told to leave.

The big question when any type of evacuation order is issued is whether or not you should leave. The elevation of your home is one consideration. If your home is located at a higher elevation than where flooding is likely to reach, you may consider staying. Obviously, homes in low-lying areas should evacuate.

If a flood is likely to block off all of the routes in and out of your neighborhood it is best to evacuate. Even if your home incurs no damage, you could be trapped with no way to leave for several days or weeks after the flood.

NOTE: Later in this guide there is a discussion about the importance of having a good home emergency stockpile. If you do have a well- stocked emergency stockpile you will be in a better position to choose to stay rather than evacuating in some circumstances.

Special Circumstances

If you or someone in your home has a medical condition, is elderly, or if there are small children in your home then you should err on the side of caution and evacuate. Even if your home does not flood, a flood in the surrounding areas could make it difficult to get medical attention for days or even weeks following a flood.

Evacuation Orders

Officials may try to issue evacuation orders in plenty of time to allow people to leave safely, this doesn't always happen. There are plenty of instances where people died while complying with evacuation orders.

One example involves evacuation orders issued for a hurricane. There are many instances where authorities issued evacuation orders and told residents to get out within 24 hours. Unfortunately, flooding preceded the storm's landfall and many who were preparing to evacuate could not as all roads out were flooded. Oftentimes, residents perished because they were unable to leave.

It is extremely important that you take responsibility for your safety and the safety of your family. Keep an eye on the weather and leave if you think there is the potential for dangerous flooding even if an evacuation order has not yet been issued.

There are some types of weather events that you may choose to ride out at home. However, if you get warning that there is a good chance your home will be flooded, there is never a good reason to stay. The amount of warning that you get will vary. That is why you should always keep a go bag, sometimes called a bug out bag, at the ready. At the end of the guide are recommendations for crucial items to include in your bug out bag.

Side Effects Of Flooding

When envisioning a flood, many people imagine their home destroyed by water that slowly rises and eventually fills all or part of their home. While this certainly does happen, it is not the only danger associated with flooding. By now you have realized all disasters are usually accompanied by other 'gotcha' type of events that disrupt normal life and can threaten your family's survival.

The side effects can be just as dangerous as the flooding itself. Here are some examples.

- Contaminated water: If your area has flooded – even if your street has not – the water could very well be contaminated. Do NOT drink the water until you get an ok from officials that it is safe to do so.
- Closed roads: If the roads in your community are closed due to damage from flooding then trucks will not be able to make their deliveries. That means that local grocery stores will likely be sold out within a few days. Grocery stores typically only keep a 3 day supply of merchandise on hand. Stores rely on daily deliveries and if the trucks can't make it in, you will not be able to buy food and the other things that you need.
- Limited access to medical care and public safety services: This could be due to closed roads or simply that the hospitals, police and fire departments are overwhelmed and cannot keep up with all of the regions need. During Sandy in New York City many hospitals were forced to close because the flooding keep their emergency generators from functioning.
- Being homebound: Even if your home doesn't flood you could still be homebound for several days. Experts say that you shouldn't try to wade through flood water unless absolutely necessary. You also shouldn't drive through flooded streets – even if the water doesn't appear to be very deep. Looks can be deceiving and many people have died trying to drive through flood waters that appeared quite shallow.
- Sanitation concerns: Your septic system could be flooded. Flushing a toilet could be a disaster. Following a flood it is a good idea to have your septic system checked out before you begin using it again.

Stockpiling Food

Some mistakenly think that there is no point of creating an emergency stockpile for a flood because a flood would destroy all the supplies anyway. This isn't necessarily true. It all depends on where you stored your food and how well it was sealed. First of all, an emergency stockpile should be for all types of emergencies, not just flooding. Also, there are many possible scenarios in which your home will not be damaged yet and you will need a stockpile. Many of those were listed in the section above. If you are homebound, or if any of the other side effects apply to you, your stockpile will carry you through the days and weeks until things get back to normal.

Keep in mind that emergency services may not be able to reach you for several days. If you remember the introduction to the guide, you cannot count on the government or groups like Red Cross helping you in the days immediately following severe flooding.

Instead, you should plan ahead and have a stockpile that is sufficient for you and your family.

Flood Specific Preparations

While you should have a preparedness plan that covers many types of disasters, there are some things to keep in mind that are specific to flooding.

- Keep part of your stockpile of food, water and other supplies in the highest part of your home. Should you need to quickly move to the higher floors – or to the attic – you will at least have some supplies with you.
- Keep tools that will allow you to cut through the ceiling and roof. There are many instances of people dying because they moved to the attic and became trapped. Many of these could have been saved if they had the right tools with them.

Hurricane

If a hurricane strike where you live, it could be a life altering event. Your life could change permanently. The continental United States faces a variety of dangers each year – from forest fires to tornadoes, from earthquakes to flooding; none hold quite as much dread to the average person than the awesome destructive power of a hurricane. Like



other natural disasters such as earthquakes or floods, it isn't always possible to avoid the damage caused by the event, especially if the hurricane is headed right for your home town. If there is an upside to something as awful as a hurricane, it's that the storm typically provides plenty of warning of its approach. Usually you'll have several days warning. Careful preparation now and in that window before it strikes can reduce the amount of damage your property or possessions take.

The extra time a hurricane gives you to prepare stands in as a luxury to sudden events like earthquakes or events with little warning such as tornadoes. The difference, is that hurricanes that make landfall in populated areas are nearly always destructive, and the

consequences from the event remain long after the hurricane has dissipated and skies have cleared.

Hurricanes, like most weather systems, aren't stationary. They are steered by the earth's natural winds, and usually move in an east to west direction. The direction a hurricane travels is referred to as its *track* – and besides knowing what category the storm is, track is of primary interest to those wanting to prepare for and survive this event. Besides track, the speed that the hurricane is moving is also a factor to consider. Some hurricanes have been slow moving and long lasting, menacing the East Coast with the threat of destruction for weeks while meandering at 15-20 mph. Sandy hung around for over a week dumping waves of snow and rain in parts of the inland Eastern area.

Others, like 1987's Hurricane Emily are fast moving freight trains. Emily achieved a movement speed that could have kept pace with freeway motorists at 69 mph! As a rule, the faster moving the hurricane, the more its trajectory is easier to predict because it's reaching its destination faster.

Immediately Life Changing

A hurricane that makes landfall is dangerous in a multitude of ways and will immediately impact anyone unlucky to be in its path in a multitude of different ways. Like any natural disaster that's on the 'Act of God' level, a hurricane has two major impacts – an immediate impact, and a post disaster phase that depending on the damage, could last years. The immediate impact of a hurricane packs a tremendous punch:

Winds

What people think of when they think 'hurricane'. From the countless images of news anchors on the scene of an impending hurricane being practically blown off the screen to palm trees leaning sideways, wind is the primary mechanism of destruction for a hurricane that makes landfall. Depending on the size of the storm, a hurricane's winds can be felt hundreds of miles away, and still be damaging at this distance. Sandy's winds covered an area bigger than the state of Texas. Considering that a category 4 hurricane can pack winds of over 130 miles per hour, the wind damage aspect is obvious. Wind damage isn't limited to coastal areas; keep in mind that even though a hurricane will gradually lose strength once it makes landfall, it still has plenty of power to wreak havoc.

Wind speed causes all sorts of damage and presents a massive risk to people and property. Medium velocity winds can push out-buildings over, blow the glass out of high rises, strip roof shingles and tiles and send them and other debris flying through the air.

High wind speeds simply flatten anything in their path not designed to sustain such force.

Very few buildings are designed to deal with winds over 150 MPH. This doesn't even take into consideration the gusts, which often are much higher.

Anything approaching hurricane winds is deadly to people, livestock, and pets outdoors. Much like a tornado, a hurricane scoops up seemingly harmless items off the ground and then hurtles them like missiles. There are countless documented photos of telephone poles impaled by street signs, bent trees, pierced house walls, and perforated vehicles. Nothing short of a reinforced concrete bunker is safe from the destructive winds of a hurricane, which is why the conventional logic of dealing with hurricane force winds almost always results in evacuation.

Rainfall

Hurricanes also dump tremendous amounts of rain in extremely short periods of time, which is a standalone hazard as you learned from the previous section on flooding. Heavy rains cause dams to burst, overwhelm sewer and drainage systems, and can result in mudslides and flash floods, all of which are lethal. It's not uncommon for a powerful storm to dump 20+ inches of rainfall on an area in a matter of hours!

Rainfall presents a significant hazard due to a variety of reasons. As a hurricane approaches, winds increase and rain begins to fall. Many homeowners will still be weighing whether to evacuate or hunker down. Usually the track of the hurricane is still open for debate at this time. As rain continues to fall and it becomes obvious that the hurricane is headed towards town, many people who were otherwise glued to the TV checking for updates are surprised to find certain routes impassable due to backed up sewers and flooded streets.

Keep in mind that not many vehicles can easily traverse a street filled with two feet of water from a flash downpour, and often the water is significantly higher than that for a short period immediately during and after the rainfall. Rain coupled with high winds creates an environment where it's almost impossible to drive due to visibility concerns.

Storm Surge

Storm surge is the final component of an insidious triple whammy that a hurricane brings to town during its destructive road trip. As if the torrential rains and heavy winds weren't enough, a hurricane brings storm surge to coastal and low lying areas, sometimes bringing close to 20 feet of water to bear on an unsuspecting town.

Storm surge is relatively easy to understand. A hurricane that's been blowing at 150+ miles an hour on the surface of the ocean for a few days will actually blow some of that

water in the direction it's moving. Thus, as a hurricane makes landfall, it brings with it a temporarily elevated sea level that is markedly higher than normal sea level – in some cases, over twenty feet higher. Even a casual look at your local pier or harbor will tell you that twenty more feet of water isn't a good thing and that many low lying areas will be underwater for a time.

Hurricanes tend to strike along the Caribbean and Eastern Seaboard, especially the southeast, which is as flat as land can be, making the potential for damage more devastating. The storm is also pushing that water with hurricane force winds, which means that not much can resist the storm's force. The combination of wind and storm surge makes a hurricane the deadliest type of storm on the planet.

The storm surge pushed by hurricane force winds over low lying areas travels for miles inland, wiping out everything in its path, then receding back into the ocean after the hurricane moves, taking everything back with it, not wholly dissimilar to a tsunami strike, although usually on a larger scale and more violent because of the winds.

Other Immediate Dangers

Hurricanes also have a tendency to stir up tornadoes – Hurricane Beulah in 1967 spawned a record 141 tornadoes. The conditions required to cause a tornado exist perfectly inside a hurricane, and are normally found in its right front quadrant as well as its rain bands. A tornado on its own is a violently destructive event that is extremely hazardous. Compounding this is the fact that in tornado country, people are generally prepared for tornadoes; in-ground shelters are fairly common. Where hurricanes strike in coastal areas there is very little tornado preparation because they are an unusual occurrence.

Aftermath

While a hurricane is unparalleled on planet Earth for sheer destructive capability, it is generally a short lived event. Once a hurricane makes landfall, it is generally well on its way to burning itself out, and will usually be finished within a week or less. Once the rain stops and skies clear, the true magnitude of the disaster can be beheld, and it's often humbling. At this point, the wreckage left over is on par with things like earthquakes, floods, landslides, and other natural disasters, except usually larger in area. The theme shared with these disasters is that they immediately, suddenly, and abruptly kill the thin veneer of society, and that's what makes them so deadly, their cost measured in human death and suffering.

Daily Life Drastically Changed

What all these natural disasters have in common is that immediately following the disaster, the comforts and conveniences of society are temporarily suspended. Unfortunately, most are generally unprepared for these hardships and ill-equipped to deal with this new world. Oftentimes, as many or more deaths occur *after* the disaster than in the actual disaster itself. Whether the disaster is an earthquake, hurricane, or even electromagnetic pulse or terrorist event, the aftermath is remarkably similar:

- Utilities such as power, water, and gas are usually inoperative.
- Destruction and debris in the streets will often prevent first responder vehicles from reaching injured people in a timely manner.
- Communications are non-existent.
- First responders who live in the affected area are usually initially busy dealing with their own families and loved ones rather than strangers.
- The criminal element, which is normally suppressed by law enforcement, flourishes while law enforcement is otherwise occupied by other emergencies.
- Food and water supply dry up quickly for two reasons: 1) most stores have been stripped dry prior to the disaster by unprepared people panicking, and 2), immediately after the disaster, stores are incapable of being resupplied due to blocked supply roads and lack of power for refrigeration.
- Natural water supplies like reservoirs or storage tanks become compromised from debris and damage.
- Medical care is overwhelmed, hospitals oftentimes cannot function without power for their diagnostic equipment; doctors lack knowledge of effecting a diagnosis without complicated electronics.
- Cash becomes devalued as survivors of the event begin trading and bartering for needed supplies.
- Dead bodies and animal carcasses increase the risk of disease to the survivors.

We as humans are mostly incapable of surviving in a society that is devoid of modern conveniences, and a hurricane is in many ways a time machine, immediately bringing residents of the affected area back to life as it was 200 years ago. Most people simply don't have the supplies or training to outlast an event like this, and the choices for most people usually are split between life in a temporary refugee camp teeming with people or life in a post apocalyptic wasteland. Neither choice is particularly appealing!

Hurricane Katrina

The design of the city of New Orleans, which lies mostly below sea level and is punctuated by levees which hold the waters of Lake Pontchartrain and the Mississippi river back, made Katrina in 2005 worse. Katrina carried 28 feet of storm surge and decimated these low lying areas. Additionally, since the areas hit were below sea level, there was no natural drainage available to clear the area of water rapidly, and New Orleans' sewer systems became quickly overwhelmed and inoperative.

Although the city of New Orleans was not the solely affected, it is an excellent example illustrating the effects of a major hurricane upon a densely populated area. As previously discussed, two areas of impact were felt by New Orleans: an immediate impact from Katrina herself, and the aftermath, which the city is still dealing with today, over seven years after the storm.

Katrina vs New Orleans

Katrina's immediate impact upon New Orleans was simply devastating. While the initial cause of the extensive flooding was storm surge, the hurricane also caused over 50 breeches in the city's extensive levee network, causing the waters of the Mississippi and Lake Pontchartrain to exacerbate the flooding. Over 90% of New Orleans' residents were evacuated in what was to be one of the largest metro area evacuations in history. Close to a million people left town. Approximately 100,000 people stayed against all orders, with 20,000 choosing to tough it out in what was to be a refuge of last resort – the Louisiana Superdome.

The destruction was awesome, and besides the flooding, innumerable buildings had their roofs peeled off, windows smashed, and the streets themselves were choked with abandoned vehicles. Power was completely absent in most parts of the city, and residents described frequently seeing dead bodies float by in the water filled streets.

Katrina Brought Out The Worst In People

After the immediate danger had passed from the hurricane, Katrina's parting gift was widespread civil disturbance. In what is a common theme for natural disasters, once the criminal element becomes otherwise unoccupied with the disaster, they turn to targets of opportunity. The massive evacuation would become a double edged sword – on the one hand, lives were saved, on the other, there was nobody left to guard any property that was hurriedly left behind, and many criminals simply had a field day until they were stopped by a massive influx of law enforcement and military personnel that were brought in to quell the unrest. This also exacted a heavy toll upon the city, with numerous law abiding citizens having their constitutional rights trampled in the midst of heavy handed policing intended for a crooked few.

Life in the refugee camps also became intolerable, cramped, and tightly controlled by FEMA, the Federal Emergency Management Agency, which was quite simply caught flat footed due to the sheer magnitude of the disaster. The rebuilding of New Orleans and the clean up from Katrina as well as the repatriation of its citizens took years, and the Gulf Coast is still feeling the effects of Katrina to this day.

Hurricane Survivability

Being a survivalist or a prepper usually has different implications depending on what part of the country that individual lives in. A prepper in Arizona, for example, can most likely survive just about anything from a nuclear attack to the worst earthquake because of the terrain, population density and infrastructure in place. Most survival strategies rely on common threads to ensure that the survivalist can endure a period of time during which society and all modern conveniences have broken down. Much of this planning has to do with building a well stocked retreat that can help the individual survive without water, power, and heat, and stresses self sufficiency. Common survivalist / prepper themes are:

- A well stocked pantry and larder which will enable the individual or family to survive with months to years without resupply.
- A cache of firearms and ammunition to fend off undesirables in the event of civil disturbance as well as to hunt for game.
- A hardened home that has provisions for storage and defense.
- An adequate supply of tools and supplies needed to survive in a society in which the new purchase thereof is impossible.
- A method of generating electricity.

These are sound strategies that make perfect sense. There is nothing wrong with planning and prepping in this manner, but there is one significant problem with this strategy when applied to a hurricane...

Hurricanes Are Equal Opportunity Destroyers

Hurricanes are the great equalizer. They demolish the homes of the well prepared right alongside the person who has one day of food in their fridge. They render a cache of weapons useless under ten feet of water just as they do the guy next door with the .38

in his dresser drawer and 20 rounds of ammunition. Hurricanes completely eviscerate the retreat mentality.

The problem with the retreat mentality is that oftentimes with a hurricane, the only survivable strategy is evacuation. If you live in an active hurricane zone and are facing an impending storm barreling towards your well stocked retreat, your options are all more or less undesirable. You won't be taking your thousands of rounds of ammunition, cases of MREs, copious hand tools, or much else as you flee your home. Retreat mentality, simply put, *only works when you can stay in your retreat*. Staying put while facing a Category 4 or 5 hurricane, especially when it is predicted that you will be in harm's way, is utter stupidity. Few if any homes are adequately hardened to withstand hurricane force winds and their accompanying storm surges. Very few homes are impervious to flooding, especially if constructed in low lying areas. While the retreat mentality works well in many other parts of the country, it simply isn't the soundest strategy in a hurricane zone.

What is a person to do? Many preppers are disappointed that the conventional survival logic does not really apply to hurricanes. This is actually a blessing in disguise, since most survivalist types are big on accumulating equipment but small on things like physical fitness or skills based survival. So what, you can't survive by ordering items out of a catalog – improvise, adapt, and overcome.

Survival Strategies

First and foremost, if you live in an area that has a history hurricane hits, it's incumbent on you to plan for these events. The way you plan for this type of disaster will be different than how you might plan for another type of disaster. You might have significant overlap in your all around survival strategy – for example, the retreat mentality or strategy might not work in a hurricane, but it works for just about every other disaster whether manmade or natural. You don't have to sell your multiple acre well stocked rural retreat – you just have to keep a "Plan B" on hand to deal with an evacuation scenario.

Bear in mind that the only successful strategy for surviving an incoming hurricane is evacuation, which works essentially 100% of the time. Although it may be hard to leave your home, vehicles, mementos, and possessions, realize that there are some things you don't have control over in this life and a major hurricane making landfall is just one of those things. Evacuation presents its own set of problems and challenges which must be thought of well in advance. Evacuation should also be part of your retreat strategy regardless of where you live, hurricane or not! Your well stocked and fortified retreat is not the Alamo, and having a plan to make such a place your last stand is simply foolish. Every retreat needs an evacuation plan.

Evacuation

Evacuation in advance of a looming disaster is more or less the same regardless of the disaster, and several considerations need to be thought of:

- Secure your home! Just because you are evacuating doesn't mean you shouldn't secure and lock all doors and windows. In all manner of disasters, many a homeowner has returned to find their house intact and damage free while the places half a block down are demolished. Plan to return, and that means securing valuables and entries.
- Unless you are telepathic and have anticipated the disaster, chances are you will be evacuating with many other people who all share the same goal as you. What this means is that you will have pre-scouted as many routes as possible beforehand to ensure you avoid crowded interstates and thoroughfares. The best time to scout these routes is when there is no disaster. Pay especially close attention to potential choke points such as bridges.
- Keep at least one of your vehicles fueled at all times –don't be stuck in a line of motorists waiting for diminishing fuel supplies when you should be driving away.
- Keep a bug out bag packed for each person in your family with at least 3 days worth of food and water per person, as well as handheld communications, personal protection weapons, and warm clothing.
- If there is something you can't live without, such as a precious heirloom, then pack it before hand if it is small enough. Realize that great grandpa's baby grand piano might not make it.
- Finally, *have a place to go!* You must have at least two rally points planned to evacuate to that are well outside of the hurricane's path of destruction, and also away from lines of drift that other refugees might take. Evacuating your home and having no plan for a place to go could potentially result in disaster. Plan this out long before the event happens!

Staying put

It's insane, and it's dangerous, but some people will simply not be pried from their homes, and that is their decision and theirs alone to make. If you are in that situation, there are a few things you need to do to plan to ride out the hurricane:

- Realize that your home might not make it. If you have been told to evacuate and you are in the direct path of a major hurricane, the forces might just be enough

to pick up your home and hurtle it into the next zip code. This is the reality of the power of hurricanes.

- Your first priority is to counteract the effects of hurricane force wind and debris. On a practical level, this means reinforcing doors so that they remain shut, using metal door jambs on exterior doors, and also sealing up all window openings. Window shutters need to be made well in advance of an approaching storm and pre-fitted to ensure they fit. In a pinch, they are usually made of ½" or thicker plywood and screwed to the window frames. A much better solution in areas frequently visited by storms are rolling metal storm shutters.
- Identify on the property where the gas, power and water utility shutoffs are. Have tools readily available and on hand to shut these valves off – check in advance to see if they fit.
- Plan for water intrusion and flooding. This means moving water sensitive items to the second floor or attic. Keep in mind that in a heavy flood situation, you yourself might be moving into the second floor or attic, and this means storing a minimum of an axe or sledge hammer inside the home for use as an escape tool in case the waters rise and you are trapped within.
- Identify an area inside the home that will be safe to shelter in during the worst of the storm. This means a place with no exterior windows, like an interior hallway or closet.
- Food and water are still paramount concerns, and you should have as much of it on hand as is possible. Remember, you're riding out a hurricane at home – when it's passed, it will look like a nuclear bomb hit your neighborhood. Stores will be closed or have limited supplies if they are standing. Riding out the storm means being in the worst areas of both phases– immediate damage and reconstruction phase.

Keep plenty of tarps, lumber, and construction material on hand to repair damage temporarily after the storm passes. Sure, your home might survive, but a six foot hole in the roof when it's raining cats and dogs is no fun at any time.

Survival Skills

What separates survivors of disasters and victims of disasters is a survival mentality that focuses on the total survival strategy, not just buying equipment. There are a few key areas to consider:

Physical fitness

During a disaster, your body will be challenged in many ways. We all lead very sedentary lives. There will be long hours without sleep to lifting heavy loads. Infrequent eating and improper hydration will take their toll as well. You have to be ready for it all. Being ready for a disaster means physical conditioning, strength and core training, and a degree of cardio fitness. Keep in mind what you want is true good health, not a completely fat free and chiseled appearance more suited to a beach. Good overall health and stamina is key!

Practical skills

Can you bandage a laceration? How about starting a fire? Do you know which plants can be eaten, and which can't? Can you hunt small game? All of these skills and more are essential in the aftermath of a hurricane where conditions might be as primitive as those in any wilderness. First aid at an intermediate to advanced level is a key skill that any survivalist or prepper must become intimate with. Your family's health and welfare is *your* responsibility –no one else's!

Firearms proficiency and self defense are also important areas that you need to learn in order to defend your family. The days immediately following a natural disaster are filled with lawlessness, and a time when police and other first responders are too busy dealing with their own loved ones to help you. Once again, your family's safety depends on you! We are all complacent because all we need to do to protect our family is to dial 911. This task is too important leave to a complete stranger.

Communications training is readily available and could save your life during a hurricane. A handheld HAM radio can connect you with personnel many miles away – all you have to do now is go take a free class at the community center and purchase a \$200 radio. HAM radios are excellent during disasters since they almost always remain operational, and the HAM community is better prepared than most people.

Finally, conduct family exercises to simulate brief periods without heat, power, or communications in order to get used to living for short periods of time without these things. Learn how to start fires, to cook foods without a stove, and purify water. The period following a hurricane is a time of returning back to basic skills, so make sure you have some skills to draw upon.



An incoming hurricane ranks among the most serious life altering events most of us will ever encounter. Having said that, there is much you can do *right now* to prepare. This

includes planning to get your family out of harm's way, having a contingency plan to deal with the aftermath, accumulating both the supplies and the *skills* needed to survive the storm. All these things will influence the chances of your family's survival. averted.

Tornadoes

Those who are serious about emergency preparedness understand that it is important to prepare not just for the events that are most likely to occur in your area, but to prepare for as many types of disasters as possible. For example, we mentioned the nasty habit hurricanes have of spawning tornadoes in regions where they do not normally occur.

Truth is, tornadoes are one of those disasters. One of the main problems that you may face as you work to prepare for a tornado is that this type of storm often comes with very little warning. Still, there are steps that you can take to ensure that you and your family will survive a tornado and that you will have what you need to get by in the weeks that follow.

Tornado Overview

Tornadoes are one of the potentially deadly weather events that occur in the United States hundreds of times each year. These storms are rotating air columns that touch down to the ground and then, if strong enough, sweep a path of destruction.

Most touchdowns last less than five minutes, but some last more than an hour, greatly increasing the amount of damage that occurs. The exact number of tornadoes that take place each year in the United States is between 800 and 1000. The vast majority of these tornadoes are not strong enough to do any damage.

In order to count as a "significant" tornado, it must be at least an EF2 on the Enhanced Fujita Scale. An EF2 tornado has winds that range between 111-135 MPH. An interesting thing about the Enhanced Fujita Scale is that it is not possible to accurately assign a rating to a tornado until *after* the damage is done. The reason is that the experts use the damage in order to determine how strong the winds were. That being said, it is impossible to estimate, with some accuracy, how strong and large a tornado will be before it touches down.

Even in locations that have modern tornado warning systems, there is still plenty of room for error. One reason for this is that tornadoes do not just follow a straight path. If they did, it would be easy to determine exactly where the tornado was going next and to evacuate everyone in the tornado's path. Instead, tornadoes can move in any

direction. They can change direction and even backtrack over a spot where the storm has already caused damage. This makes it much more difficult to predict exactly where a tornado may cause damage.

Side Effects

Unlike hurricanes, tornadoes typically strike quickly. The storm itself may be over in just a few minutes, but the devastation left behind can take weeks or months to repair. In addition to the personal damage to your own property, there are also many possible, serious side effects such as those that will impact your local infrastructure.

If a tornado damages power lines or power stations, it can cause an interruption in electrical service that can take weeks to fix. This could impact your ability to provide heat and cook your meals. Having backup methods for heat and for cooking is a very important part of being prepared for a tornado.

What if the tornado impacted your local water supply? This could mean that the supply was tainted or that the delivery system was interrupted, meaning that when you turn on the faucet no water will come out. Being prepared means storing water as well as having a way to purify water should the supply be contaminated.



There are many ways that a tornado could interfere with the food supply. If the electricity is out, most grocery stores are not going to open. Also, if the roads are blocked, delivery trucks will be unable to make deliveries. Because most grocery stores only keep about a three day supply of goods on hand, that means shelves will be empty in just a few days.

Following a particularly devastating tornado, you may not be able to count on the usual public safety services. The police in your location may be busy handling other things and may be unable to respond to your call for help in a timely manner. You must have a way to protect your home and family following a tornado.

In short, a tornado has the ability to upend your life in a number of ways. Being prepared means considering all of the ways that a tornado could impact your life and then making plans to be able handle those situations.

Keep in mind that even if a tornado does not cause a large number of deaths, it can still leave behind destruction that can cause serious problems for those who are not prepared.

Tornado Prone States

Some states have a history of having a higher number of tornadoes than others. What surprises some people is that tornadoes take place in almost every state. There are just 2 states, both in New England, that have not had any tornado activity since 1991. However, just because it hasn't happened in the last 10 years, does not mean these states are immune from the threat.

There are certain times of year when tornadoes are more active. Typically, April, May and June are the most active months, but there is tornado activity throughout the year. A tornado can happen in any state and at any time of the year.

Tornado Warning Systems

There was a time when there was no way to warn residents that a tornado was on the way. Even when it was possible to offer some warning via radio or television, that was only useful if the person happened to be listening or watching.

Today, many areas that are tornado prone have tornado alarms or warning systems in place. Even though the warning time is still usually only a matter of minutes, those minutes can be the difference between life and death.

While having a tornado warning system is a step in the right direction, it is certainly not foolproof. Below are some of the problems with the warning systems.

- *Human Error:* A person must sound the alarm. They must do so based on what they see while monitoring the weather. There are many examples of instances in which the warning system was not deployed until it was too late for residents to take cover.
- *Damaged Equipment:* If the tornado warning system is not working correctly, most residents will not be aware of that and will, therefore, still be counting on the alarm. An example of this happened in Wisconsin in 2001. The tornado warning system had been damaged by lightning. Officials knew it, but most residents did not. When an F3 tornado formed in their town, many residents did nothing because the alarms didn't sound. Three people were killed by that tornado.

- *Dependence on Warning System:* Some residents may stop monitoring the weather and instead rely solely on the alarm.
- *Unable to Hear Alarm:* People with a hearing impairment may not hear the alarm. Also, some alarms may be difficult to hear while indoors.

The most obvious problem is that tornado warning systems are not located everywhere. Even where they do exist, they are not foolproof. If you have a smart phone, you can get a app from NOAA that will give you severe weather alerts. This is a fairly new development, and there is not much data on how successful it has been in saving lives.

Tornado Specific Preparation

Many survival preparations apply to all disasters. Let's look at some tornado specific preparations that you may want to consider.

Weather Radio

While tornado warnings will certainly be broadcast on television and radio, having a weather radio will allow you to closely monitor a tornado or to listen for updates when the weather is especially conducive to producing tornadoes. Choose one that can be operated from various power sources such as battery, hand cranking and solar power. As we mentioned, your phone can receive these weather alerts as well.

Do You Need a Tornado Shelter?

No matter where you live you should have a plan about where you will go if a tornado is heading your way. If you live in an area where tornadoes are more common, you may need to consider installing a storm shelter. If your home is solidly built and has a concrete basement, that can serve as your storm shelter. If, however, your home does not have a basement or you live in a mobile home, then you should consider adding an underground storm shelter.

Another option is to create a safe room within your home. For example, you could choose to reinforce a small bedroom or even a large closet. The Federal Emergency Management Agency (FEMA) published a detailed guide for building a safe room in your home.

A link to the guide can be found here: http://www.nhc.noaa.gov/HAW2/pdf/building_safe_room.pdf.

Keep your safe room, basement or storm cellar stocked with all supplies that you will need, such as water, medication and first aid supplies.

Games, books, and other entertainment—Because you may be in your shelter for several days, keep items on hand to occupy your family during that time. Children are likely to get bored if they have to stay in one place for long periods. Think of activities that they will enjoy doing while in the shelter—finger painting, coloring, playing games, etc.

Family Communication Plan

A family communication plan is important for all types of disasters, but it was placed in the tornado specific preparation section because tornadoes can happen without warning making it impossible to have discussions with family members before it strikes.

As part of your tornado preparedness, you should have a plan as to how family members will be able to check on each other following a tornado. Remember that phone service may be down, so you will need an alternate plan. This may include designating an out of town family member to be the central point of contact for everyone. You can also talk to nearby neighbors who will be willing to check on family members should a tornado strike area.

Tornado Drills

Having a plan won't mean anything unless every family member knows how to carry out the plan. That is why tornado drills are so important. When a hurricane is coming, you will have a few days warning. With a tornado, you may only have a few minutes – if that.

Your tornado drills should encourage the family to practice getting to the safe room or storm cellar within 30 seconds. This includes gathering the pets. You should have drills at random times at least 1 to 2 times per month.

Don't Forget the Pets

When stocking your safe room and practicing tornado drills, it is important that you don't forget your pets. Keeping your pets in your safe room or storm cellar is their best chance for survival.

Other Considerations

In addition to food and water, below are other items that you should have on hand in case of a tornado or other emergency.

Alternative Shelter -A quality tent is a great item to keep in case your house becomes uninhabitable.

Source of Heat-Keep enough firewood or a propane heater with plenty of propane on hand to help you get through cold winter nights with no other heat source. Also, wool blankets, hand and body warmers, matches and warm clothing should be on hand.

Bug Out Bag-A bug out bag is a bag that you can grab at a moment's notice that contains everything that you would need to survive for at least 3 days. They are discussed in more detail at the end of the guide.

Important Things To Remember For Survival

- *TODAY is the day to start preparing:* A tornado or other disaster could happen at any time. If you have not yet started to prepare, today is the day to do so. Don't put it off. Even if you can only buy a couple of items each week, do *something*. Procrastinating could mean disaster for your family.
- *Practice:* As mentioned above, practicing the various parts of your tornado drills is important. It is also important that you practice using the items in your emergency supplies. If you don't know how to cook with freeze dried food or use the items in your first aid kit then it's not going to do you much good.
- *Protect:* Be prepared to protect your supplies. Following a disaster, people will be desperate to get the things that they need. For that reason, you should also keep weapons and ammunition in your stockpile. This will allow you to protect the preparations that you have put away.

It doesn't matter if you live in an area that is especially tornado prone or not. The fact is that tornadoes can and do strike in nearly every state. Prepare today to avoid a tragedy later.

NOTE: If a tornado destroys your home, which is a very real possibility, then you could lose all of your emergency supplies. For that reason, consider partnering with someone who lives relatively close to you, but who would not likely be impacted by the same tornado that could destroy your home. Split your supplies between your partner's home and your own. That way, should your home be destroyed, you would have a backup supply. Of course, you will need a way to retrieve those items, but at least you would know that even if grocery store shelves were empty, you still have a stash of goods waiting for you.

Wildfires

More and more people are making their homes in woodland settings - in or near forests, rural areas, or remote mountain sites. There, homeowners enjoy the beauty of the environment but face the very real danger of wildfire.

Every year across the country, while some homes survive, many others do not after a major wildfire. Those that survive almost always do so because their owners had prepared for the eventuality of fire, which is an inescapable force of nature in fire-prone wild land areas. In other words: if it's predictable, it's preventable! Wildfires often begin unnoticed. They spread quickly, igniting brush, trees, and homes. Reduce your risk by preparing now - before a wildfire strikes.

Wildfires were once confined to the West. However as a result of the drought, they are occurring in states that are unaccustomed to these natural disasters. Wildfires present a threat even if you are not in immediate danger of it engulfing your home.

Health Threats From Wildfire Smoke

Smoke from wildfires is a mixture of gases and fine particles from burning trees and other plant materials. Smoke can hurt your eyes, irritate your respiratory system, and worsen chronic heart and lung diseases.

Smoke can cause—

- Coughing
- A scratchy throat
- Irritated sinuses
- Shortness of breath
- Chest pain
- Headaches
- Stinging eyes
- A runny nose
- Asthma exacerbations

If you have heart or lung disease, smoke might make your symptoms worse.

People who have heart disease might experience—

- Chest pain
- Rapid heartbeat
- Shortness of breath
- Fatigue

Smoke may worsen symptoms for people who have pre-existing respiratory conditions, such as respiratory allergies, asthma, and chronic obstructive pulmonary disease (COPD), in the following ways:

- Inability to breathe normally
- Cough with or without mucus
- Chest discomfort
- Wheezing and shortness of breath

When smoke levels are high enough, even healthy people may experience some of these symptoms.

Know Whether You Are At Risk

If you have heart or lung disease, such as congestive heart failure, angina, COPD, emphysema, or asthma, you are at higher risk of having health problems than healthy people.

Older adults are more likely to be affected by smoke, possibly because they are more likely to have heart or lung diseases than younger people.

Children are more likely to be affected by health threats from smoke because their airways are still developing and because they breathe more air per pound of body weight than adults. Children also are more likely to be active outdoors.

Protect Yourself

Limit your exposure to smoke. Following are ways to protect your health:

Pay attention to local air quality reports. Listen and watch for news or health warnings about smoke. Find out if your community provides reports about the Environmental Protection Agency's Air Quality Index (AQI). Also pay attention to public health messages about taking additional safety measures.

Refer to visibility guides if they are available. Not every community has a monitor that measures the amount of particles that are in the air. In the western part of the United States, some communities have guidelines to help people estimate AQI based on how far they can see.



If you are advised to stay indoors, keep indoor air as clean as possible. Keep windows and doors closed unless it is extremely hot outside. Run an air conditioner if you have one, but keep the fresh-air intake closed and the filter clean to prevent

outdoor smoke from getting inside. If you do not have an air conditioner, and it is too warm to stay inside with the windows closed, seek shelter elsewhere.

Do not add to indoor pollution. When smoke levels are high, do not use anything that burns, such as candles, fireplaces, or gas stoves. Do not vacuum, because vacuuming stirs up particles already inside your home. Do not smoke, because smoking puts even more pollution into the air.

Follow your doctor's advice about medicines and about your respiratory management plan if you have asthma or another lung disease, Call your doctor if your symptoms worsen.

Do not rely on dust masks for protection. Paper "comfort" or "dust" masks commonly found at hardware stores are designed to trap large particles, such as sawdust. These masks will not protect your lungs from smoke. An "N95" mask, properly worn, will offer some protection.

Mass casualties and disasters such as explosions and fires can cause a variety of serious injuries, including burns. These can include thermal burns, which are caused by contact with flames, hot liquids, hot surfaces, and other sources of high heat as well as chemical burns and electrical burns. It is vital that people understand how to behave safely in mass casualty and fire situations, as well as comprehend basic principles of first aid for burn victims. For burns, immediate care can be lifesaving.

Note: Most victims of fires die from smoke or toxic gases, not from burns.

Practice Wildfire Safety

People start most wildfires - find out how you can promote and practice wildfire safety.

- Make sure that fire vehicles can get to your home. Clearly mark all driveway entrances and display your name and address.
- Report hazardous conditions that could cause a wildfire.
- Teach children about fire safety. Keep matches out of their reach.
- Ensure adequate accessibility by large fire vehicles to your property.
- Plan several escape routes away from your home - by car and by foot.
- Talk to your neighbors about wildfire safety. Plan how the neighborhood could work together after a wildfire. Make a list of your neighbors' skills such as medical or technical. Consider how you could help neighbors who have special

needs such as elderly or disabled persons. Make plans to take care of children who may be on their own if parents can't get home.

Before A Wildfire Threatens

Design and landscape your home with wildfire safety in mind. Select materials and plants that can help contain fire rather than fuel it. Use fire-resistant or noncombustible materials on the roof and exterior structure of the dwelling, or treat wood or combustible material used in roofs, siding, decking, or trim with fire-retardant chemicals evaluated by a nationally recognized laboratory. Plant fire-resistant shrubs and trees. For example, hardwood trees are less flammable than pine, evergreen, eucalyptus or fir trees.

Your best resource for proper planning is www.firewise.org which has outstanding information used daily by residents, property owners, fire departments, community planners, builders, public policy officials, water authorities, architects and others to assure safety from fire - it really works. Firewise workshops are offered for free all across the Nation in communities large and small and free Firewise materials can be obtained easily by anyone interested.

Create A Safety Zone Around Your Home

Within this area, you can take steps to reduce potential exposure to flames and radiant heat. Homes built in pine forests should have a minimum safety zone of 100 feet. If your home sits on a steep slope, standard protective measures may not suffice. Contact your local fire department or forestry office for additional information.

Plan your water needs

- Identify and maintain an adequate outside water source such as a small pond, cistern, well, swimming pool, or hydrant.
- Have a garden hose that is long enough to reach any area of the home and other structures on the property.
- Install freeze-proof exterior water outlets on at least two sides of the home and near other structures on the property. Install additional outlets at least 50 feet from the home.

- Consider obtaining a portable gasoline powered pump in case electrical power is cut off.

When Wildfire Threatens

If you are warned that a wildfire is threatening your area, listen to your battery-operated radio for reports and evacuation information. Follow the instructions of local officials.

- Back your car into the garage or park it in an open space facing the direction of escape. Shut doors and roll up windows. Leave the key in the ignition. Close garage windows and doors, but leave them unlocked. Disconnect automatic garage door openers.
- Confine pets to one room. Make plans to care for your pets in case you must evacuate.
- Arrange temporary housing at a friend or relative's home outside the threatened area.

If advised to evacuate, do so immediately

- Wear protective clothing - sturdy shoes, cotton or woolen clothing, long pants, a long-sleeved shirt, gloves, and a handkerchief to protect your face.
- Take your bug out bags.
- Lock your home.
- Tell someone when you left and where you are going.
- Choose a route away from fire hazards. Watch for changes in the speed and direction of fire and smoke.

If Time Permits, Protect Your Home

Inside:

- Close windows, vents, doors, blinds, or noncombustible window coverings and heavy drapes. Remove lightweight curtains.
- Shut off all utilities if possible, including bottled gas.

- Open fireplace damper. Close fireplace screens.
- Move flammable furniture into the center of the home away from windows and sliding glass doors.
- Turn on a light in each room to increase the visibility of your home in heavy smoke.

Outside:

- Seal attic and ground vents with precut noncombustible coverings.
- Turn off propane tanks.
- Place combustible patio furniture inside.
- Connect the garden hose to outside taps.
- Set up a portable gasoline-powered pump.
- Place lawn sprinklers on the roof and near aboveground fuel tanks. Wetting the roof may help if it is shake-shingled.
- Wet or remove shrubs within 15 feet of the home.
- Gather fire tools.

Meet with your family

- Discuss the types of disasters that could occur.
- Explain how to prepare and respond to each type of disaster.
- Discuss where to go and what to bring if advised to evacuate.
- Practice what you have discussed.
- Pick two meeting places if separated by disaster
 1. a place a safe distance from your home in case of a home fire.
 2. a place outside your neighborhood in case you can't return home.
- Choose an out-of-state friend as contact for everyone to call.

Complete these steps

- Show responsible family members how and when to shut off water, gas, and electricity at main switches.
- Learn first aid and CPR. Contact your local American Red Cross chapter for information and training.

Practice and review these steps

Ice Storms

When winter temperatures drop significantly below normal, staying warm and safe can become a challenge. Extremely cold temperatures often accompany a winter storm, so you may have to cope with power failures and icy roads. Although staying indoors as much as possible can help reduce the risk of car crashes and falls on the ice, you may also face indoor hazards. Many homes will be too cold—either due to a power failure or because the heating system isn't adequate for the weather. When people must use space heaters and fireplaces to stay warm, the risk of household fires increases, as well as the risk of carbon monoxide poisoning.

Exposure to cold temperatures, whether indoors or outside, can cause other serious or life-threatening health problems. Infants and the elderly are particularly at risk, but anyone can be affected. To keep yourself and your family safe, you should know how to prevent cold-related health problems and what to do if a cold-weather health emergency arises.

The emergency procedures outlined here are not a substitute for training in first aid. However, these procedures will help you to know when to seek medical care and what to do until help becomes available.

What Is Extreme Cold?

What constitutes extreme cold and its effects can vary across different areas of the country. In regions relatively unaccustomed to winter weather, near freezing temperatures are considered "extreme cold." Whenever temperatures drop decidedly below normal and as wind speed increases, heat can leave your body more rapidly. These weather related conditions may lead to serious health problems. Extreme cold is a dangerous situation that can bring on health emergencies in susceptible people, such as those without shelter or who are stranded, or who live in a home that is poorly insulated or without heat.

Prepare for extremely cold weather every winter—it's always a possibility. There are steps you can take in advance for greater wintertime safety in your home.

Prepare Your Home for Winter

Although periods of extreme cold cannot always be predicted far in advance, weather forecasts can sometimes provide you with several days' notice. Listen to weather forecasts regularly, and check your emergency supplies whenever a period of extreme cold is predicted.



If you plan to use a fireplace or wood stove for emergency heating, have your chimney or flue inspected each year. Ask your local fire department to recommend an inspector, or find one in the yellow pages of your telephone directory under "chimney cleaning."

Also, if you'll be using a fireplace, wood stove, or kerosene heater, install a smoke detector and a battery-operated

carbon monoxide detector near the area to be heated. Test them monthly, and replace batteries twice a year. Do not burn paper in a fireplace.

Your ability to feel a change in temperature decreases with age, and older people are more susceptible to health problems caused by cold. If you are over 65 years old, place an easy-to-read thermometer in an indoor location where you will see it frequently, and check the temperature of your home often during the winter months.

Insulate any water lines that run along exterior walls so your water supply will be less likely to freeze. To the extent possible, weatherproof your home by adding weather-stripping, insulation, insulated doors and storm windows, or thermal-pane windows.

If you have pets, bring them indoors. If you cannot bring them inside, provide adequate shelter to keep them warm and make sure that they have access to unfrozen water.

If there is a power failure:

- Use battery-powered flashlights or lanterns rather than candles, if possible.
- Never leave lit candles unattended.

Cooking:

- Never use a charcoal or gas grill indoors—the fumes are deadly.
- Never use an electric generator indoors, inside the garage, or near the air intake of your house because of the risk of carbon monoxide poisoning.
- Plug in appliances to the generator using individual heavy-duty, outdoor-rated cords.
- Do not use the generator or appliances if they are wet because of the risk of electrocution.
- Do not store gasoline indoors where the fumes could ignite.

Conserve Heat

You may need fresh air coming in for your heater or for emergency cooking arrangements. However, if you don't need extra ventilation, keep as much heat as possible inside your home. Avoid unnecessary opening of doors or windows. Close off unneeded rooms, stuff towels or rags in cracks under doors, and close draperies or cover windows with blankets at night.

Monitor Body Temperature

Infants less than one year old should never sleep in a cold room because infants lose body heat more easily than adults, and unlike adults, infants can't make enough body heat by shivering. Provide warm clothing for infants and try to maintain a warm indoor

temperature. If the temperature cannot be maintained, make temporary arrangements to stay elsewhere.

In an emergency, you can keep an infant warm using your own body heat. If you must sleep, take precautions to prevent rolling on the baby. Pillows and other soft bedding can also present a risk of smothering; remove them from the area near the baby.

Older adults often make less body heat because of a slower metabolism and less physical activity. If you are over 65 years of age, check the temperature in your home often during severely cold weather. Also, check on elderly friends and neighbors frequently to ensure that their homes are adequately heated.

Keep a Water Supply

Extreme cold can cause water pipes in your home to freeze and sometimes rupture.

When very cold temperatures are expected:

- Leave all water taps slightly open so they drip continuously.
- Keep the indoor temperature warm.
- Improve the circulation of heated air near pipes. For example, open kitchen cabinet doors beneath the kitchen sink.

If your pipes do freeze, do not thaw them with a torch. Instead, thaw them slowly by directing the warm air from an electric hair dryer onto the pipes.

If you cannot thaw your pipes, or the pipes are ruptured, use bottled water or get water from a neighbor's home. As an emergency measure—if no other water is available—snow can be melted for water. Bringing water to a rolling boil for one minute will kill most microorganisms or parasites that may be present, but won't remove chemical pollutants sometimes found in snow.

Eat and Drink Wisely

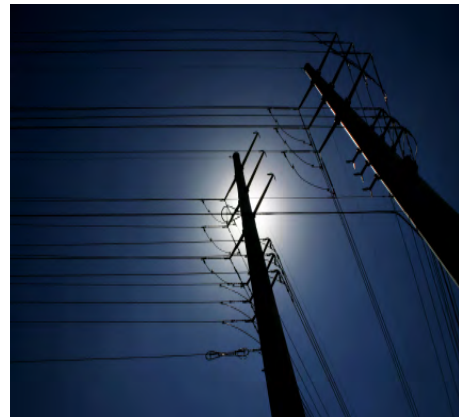
Eating well-balanced meals will help you stay warmer. Do not drink alcoholic or caffeinated beverages—they cause your body to lose heat more rapidly. Instead, drink warm, sweet beverages or broth to help maintain your body temperature. If you have any dietary restrictions, ask your doctor.

Black Outs

We have all suffered at least one episode when our power has gone out. You may live in a part of the country where brown-outs are common. A brown-out is when the utility shuts power down during a few peak hours to spread the load to meet the demand. We never think about the fact that the amount of power is finite. It is dependent on the utilities' infrastructure, usually called the grid. It has limitations like everything else. If demand goes through the roof, the grid cannot exceed its maximum output. So, some areas get shut down for a few hours. Then their power will be restored and another area will shut down and so on.

Short term outages are mostly an inconvenience. But, they should serve as a wake-up call. A reminder to you and a teachable moment for your children of just how dependent we all are on flipping a switch. Technology is wonderful and it makes our lives very comfortable and convenient, but most of these gadgets are useless without electricity.

A black out is more serious because it usually is a consequence of equipment breaking down or being damaged. This can be as simple as downed powerlines from winds or other natural weather conditions or as complex as a terrorist attack that damages the workings of the grid.



Of course, the main issue during an outage that lasts a long time is food storage. Your refrigerator will gradually get warmer and your freezer will defrost. Stay out of the fridge as much as possible.

Every time you open the door you let room temperature air in and the cold air out. There are a couple of things you can do ahead of time to tide you over. Make it a habit to keep a list of food items in the fridge on the door. For your freezer, keep it full by freezing bottled water and storing it there. Obviously, these appliances work better when they are full. You can also cover your stand alone freezer with blankets to increase insulation.

When it comes to the food, here are some guidelines. Refrigerated will spoil the fastest. It should be consumed within 4 hours. Frozen food typically will hold for 2-3 days. If it still has ice crystals, it is still safe to eat. Nevertheless, meat and dairy products that

have been at room temperature for 4 hours should be trashed. Never refreeze food that has been thawed.

The running joke around my home is when the next disaster strikes we will have a record setting BBQ. Unless the power comes back on quickly, your refrigerated and frozen food is a write off. So cook it up and eat as much as you can. It's going to spoil anyway.

You may be lucky and live where there is snow. This can extend the life of your perishables somewhat, but it also brings up the problem of keeping your family warm. Refer to the other disaster listings about safely heating your home with alternate sources of heat.

Chemical Spills

Basic Steps to Protect Yourself and Your Family in a Radiation Emergency

If a radiation emergency happens near where people live or work, you can take immediate action to protect yourself, your loved ones, and others around you. This kind of emergency could be a dirty bomb or nuclear explosion, a nuclear power plant accident, or a transportation accident. These actions will protect people in a radiation emergency:

- **Get inside and stay inside an undamaged building.**
- **If possible, shower and change into clean clothes.**
- **Stay tuned to television or radio for updates and instructions.**

Preparing a Shelter in Your Home

The safest place in your home during an radiation emergency is a centrally located room or basement. This area should have as few windows as possible. The further your shelter is from windows, the safer you will be.

Preparation is the key. Store emergency supplies in this area. An emergency could happen at any time, so it is best to stock supplies in advance and have everything that you need stored in the shelter.

Every 6 months, check the supplies in your shelter. Replace any expired medications, food, or batteries. Also, replace the water in your shelter every 6 months to keep it fresh.

Make sure that all family members know where the shelter is and what it is for. Caution them not to take any items from that area. If someone "borrows" items from your shelter, you may find that important items are missing when they are most needed.

If you have pets, prepare a place for them to relieve themselves in the shelter. Pets should not go outside during a radiation emergency because they may track radioactive materials from outside into the shelter. Preparing a place for pets will keep the radioactive materials from getting inside the shelter.

Tips Before Entering A Shelter

If you are outside when the alert is given, get inside a stable building as soon as you can. Remove clothing, shoes, and accessories before entering your shelter area. During severe weather, such as extreme cold, remove at least the outer layer of clothes before entering the home to avoid bringing radioactive material into your shelter. Leave clothing and shoes outside. Shower and wash your body with soap and water.



Removing clothing can eliminate up to 90% of radioactive contamination. By taking this simple step, you will reduce the time that you are exposed and also your risk of injury from the radiation.

Before entering the shelter, turn off fans, air conditioners, and forced-air heating units that bring air in from the outside. Close and lock all windows and doors, and close fireplace dampers.

When you move to your shelter, use duct tape and plastic sheeting to seal any doors, windows, or vents for a short period of time in case a radiation plume

is passing over (listen to your radio for instructions). Within a few hours, you should remove the plastic and duct tape and ventilate the room. Suffocation could occur if you keep the shelter tightly sealed for more than a few hours.

Keep your radio tuned to an emergency response network at all times for updates on the situation. The announcers will provide information about when you may leave your shelter and whether you need to take other emergency measures.

What does KI do?

Within a couple of days after the nuclear incident in Japan following the tsunami, you could not find IOSTAT pills anywhere. The pills prevent the thyroid from absorbing radiation. The problem was this was not even in Japan, it was here in America -- thousands of miles and a whole ocean away from the crisis. Some vendors did continue

to take orders, but gave shoppers the bad news that it could be up to 6 months before their item would be in stock.

Potassium iodide (also called KI) is a salt of stable (not radioactive) iodine. Stable iodine is an important chemical needed by the body to make thyroid hormones. Most of the stable iodine in our bodies comes from the food we eat. KI is stable iodine in a medicine form. This fact sheet from the Centers for Disease Control and Prevention (CDC) gives you some basic information about KI. It explains what you should think about before you or a family member takes KI.

Following a radiological or nuclear event, radioactive iodine may be released into the air and then be breathed into the lungs. Radioactive iodine may also contaminate the local food supply and get into the body through food or through drink. When radioactive materials get into the body through breathing, eating, or drinking, we say that internal contamination has occurred. In the case of internal contamination with radioactive iodine, the thyroid gland quickly absorbs this chemical. Radioactive iodine absorbed by the thyroid can then injure the gland. Because non-radioactive KI acts to block radioactive iodine from being taken into the thyroid gland, it can help protect this gland from injury.

The thyroid gland cannot tell the difference between stable and radioactive iodine and will absorb both. KI works by blocking radioactive iodine from entering the thyroid. When a person takes KI, the stable iodine in the medicine gets absorbed by the thyroid. Because KI contains so much stable iodine, the thyroid gland becomes “full” and cannot absorb any more iodine—either stable or radioactive—for the next 24 hours.

Iodized table salt also contains iodine; iodized table salt contains enough iodine to keep most people healthy under normal conditions. However, table salt does not contain enough iodine to block radioactive iodine from getting into your thyroid gland. You *should not use table salt as a substitute* for KI.

What KI Cannot Do

Knowing what KI cannot do is also important. KI cannot prevent radioactive iodine from entering the body. KI can protect only the thyroid from radioactive iodine, not other parts of the body. KI cannot reverse the health effects caused by radioactive iodine once damage to the thyroid has occurred. KI cannot protect the body from radioactive elements other than radioactive iodine—if radioactive iodine is not present, taking KI is not protective.

What “Sheltering In Place” Means

Some kinds of chemical accidents or attacks may make going outdoors dangerous. Leaving the area might take too long or put you in harm's way. In such a case, it may be safer for you to stay indoors than to go outside.

"Shelter in place" means to make a shelter out of the place you are in. It is a way for you to make the building as safe as possible to protect yourself until help arrives. You should not try to shelter in a vehicle unless you have no other choice. Vehicles are not airtight enough to give you adequate protection from chemicals.

Every emergency is different and during any emergency people may have to evacuate or to shelter in place depending on where they live.

How To Prepare To Shelter In Place

Choose a room in your house or apartment for the shelter. The best room to use for the shelter is a room with as few windows and doors as possible. A large room with a water supply is best—something like a master bedroom that is connected to a bathroom. For most chemical events, this room should be as high in the structure as possible to avoid vapors (gases) that sink. This guideline is different from the sheltering-in-place technique used in tornadoes and other severe weather and for nuclear or radiological events, when the shelter should be low in the home.

You might not be at home if the need to shelter in place ever arises

Most likely you will only need to shelter for a few hours.

- If there is a "code red" or "severe" terror alert, you should pay attention to radio and television broadcasts to know right away whether a shelter-in-place alert is announced for your area.
- You will hear from the local police, emergency coordinators, or government on the radio and on television emergency broadcast system if you need to shelter in place.

What to do

Act quickly and follow the instructions of your local emergency coordinators such as law enforcement personnel, fire departments, or local elected leaders. Every situation can be different, so local emergency coordinators might have special instructions for you to follow. In general, do the following:

- Go inside as quickly as possible. Bring any outdoor pets indoors.
- If there is time, shut and lock all outside doors and windows. Locking them may pull the door or window tighter and make a better seal against the chemical.

Turn off the air conditioner or heater. Turn off all fans, too. Close the fireplace damper and any other place that air can come in from outside.

- Go in the shelter-in-place room and shut the door.
- Turn on the radio. Keep a telephone close at hand, but don't use it unless there is a serious emergency.
- Sink and toilet drain traps should have water in them (you can use the sink and toilet as you normally would). If it is necessary to drink water, drink stored water, not water from the tap.
- Tape plastic over any windows in the room. Use duct tape around the windows and doors and make an unbroken seal. Use the tape over any vents into the room and seal any electrical outlets or other openings.
- If you are away from your shelter-in-place location when a chemical event occurs, follow the instructions of emergency coordinators to find the nearest shelter. If your children are at school, they will be sheltered there. Unless you are instructed to do so, do not try to get to the school to bring your children home. Transporting them from the school will put them, and you, at increased risk.
- Listen to the radio for an announcement indicating that it is safe to leave the shelter.
- When you leave the shelter, follow instructions from local emergency coordinators to avoid any contaminants outside. After you come out of the shelter, emergency coordinators may have additional instructions on how to make the rest of the building safe again.

Survival Bug Out Bag

Assemble a bug out bag for each family member, and a family survival pack with common items for everyone. Include a supply of necessary medications for each member of the family. The area where you live may require different items for first aid. For example, if you are in a wild fire area burns and breathing supplies should be included. Don't forget survival items for your pets. It can also help to leave a raincoat or other coat for each person near the safety pack.

This bag should be stocked with everything that you will need for a minimum of 3 days. If you can pack more in your bag, do it. Plan as though you will have access to absolutely nothing except what you can carry.

Your bug out bag should include:

- Food
- Water
- Cooking implements
- First aid kit (including any medications needed by members of your household)
- 1-2 changes of clothes per person
- 1 extra pair of shoes per person
- Pop up tent
- Sleeping bags
- Bug spray
- Sunscreen
- Stress relievers (such as cards or books)
- Toiletries
- Pet care items (food, water, bowls, leashes)
- Baby care items (diapers, formula, bottles, wipes)

The point of a go bag is that you can grab it with very little notice and leave your home. A well-stocked go bag can make staying at a shelter less stressful. If you don't make it to a shelter, you will have all that you need to wait it out in your car.

Here are some go bag tips.

- Make a bag for every member of the family. When a child is old enough to wear a backpack then he is old enough for a go bag. Bags specially fitted for dogs are also available. The more bags you have, the more items you'll be able to bring.
- Stock them TODAY. Make a list of the items that you need and begin assembling them now. Pack your bags and put them in an easy to reach location within your home. The bags should always be ready to go.

- Some people keep a go bag in their car, at work, as well as at home. This way if they cannot return home they will still have what they need.
- Make sure the food that you choose can be eaten as is or prepared very simply. For example, freeze dried pouch meals are a good choice because you'll just need to add hot water. Power bars are also a good choice.

As is the case with many types of emergency preparedness, you hope that you will never have to use your go bag. But having a properly stocked go bag can make all the difference should you need to flee your home. There is a more extensive discussions of assembling bug out bags in other parts of this course.

Your Emotional Well-Being

After a disaster, such as any of these we discussed, you may feel sad, mad, guilty, or numb. You may have trouble sleeping, be constantly “on the lookout” for danger, or be jumpy, irritable, or angry. Contact with certain people, sights or sounds may bring back bad memories or an overwhelming sense of grief. These are all normal reactions to stress. This is a difficult time, but there are things you can do to help cope with the stress and stay healthy even during the cleanup time that follows.

- Stay Active - Volunteer for work in a shelter, community, school, or faith-based organization.
- Help with cleanup and repair if it is safe to do so.
- Spend time with others.
- Participate in activities you enjoy.
- Take breaks from the cleanup efforts.
- Exercise (indoors if air quality is not acceptable).
- Keep a journal.
- Talk about your feelings.

Keep in mind that returning to the way you felt before the disaster may take some time. If you are having trouble managing your feelings, completing daily tasks, or caring for your family, talk to a psychologist, social worker, or professional counselor.

Your Physical Well-Being

Protect yourself from injuries during cleanup.

- **Drive safely:** Be alert for broken stop lights and missing street signs. Watch out for trash and debris on the road.
- **Stay safe around damaged buildings or structures:** Wait to return to buildings during daylight hours, when it is easier to avoid hazards, particularly if the electricity is off and you have no lights.
- **Be alert to gas leaks:** If you smell gas or suspect a leak, leave the house immediately.
- **Stay safe during cleanup:** Wear hard hats, goggles, heavy work gloves, and watertight boots with steel toe and insole (not just steel shank).
- **Avoid carbon monoxide poisoning:** Never use generators, pressure washers, grills, camp stoves, or other gasoline, propane, natural gas, or charcoal-burning devices inside your home.
- **Avoid electrical hazards:** Never make contact with power lines, regardless of whether they are on the ground or intact.

Off The Grid Power and Communication

This book is only practical if you live somewhere where you can put the advice into practice. If you do not have a useable yard, most the material here is not for you. That said, please stick with me through the introduction because there are exciting developments on the horizon that can change everything for city dwellers in large apartment buildings. There are a few small things you can do now—read the section on communications. Most of this guide is devoted to those who want to have some source of power in a crisis.

Any number of things can interrupt your electrical power. Most of us have had occasion to be without power for a few hours. Many just recently had to take a crash course in being powerless for a week or more. We are so tied to the power grid; it is shocking how much of our daily life depends on flipping a switch.

As a side note, if you live in a building with many stories, you may not have water either if your power fails. This brings up the issue of exercise and being fit enough to get out of your home and back in without an elevator. Many were trapped in their homes without water or power because of their health issues.



We strongly recommend you practice your survival skills covered in the other guides regularly, which includes spending a weekend or longer without electricity. It not only prepares you....it really make your life easier when a disaster hits because your children understand that life does go on without their phone, iPad, or TV and video games.

The two main back up power options are solar energy and wind power. I'm going to be honest here. Many look into both and decide to go get a generator. That is fine, but you must remember that you need gas to run one and in a long-term emergency, it will not give you a sustainable source of power.

Another point to keep in mind about a generator is they make noise. Noise attracts attention of the element that did not prepare and is looking to get by off of the preparations of others. Running a generator will severely hamper your efforts to blend

in as one of the majority that has little and not attract attention to your family's true circumstances.

Researchers at UCLA have developed a new type of solar cell. These new cells are called transparent polymer solar cells (PSC), and absorb mainly infrared light for energy. They are approximately 70 percent transparent to the human eye, and are made of photoactive plastic that captures the energy from near infrared light, and transforms it into electrical energy.

These plastic materials are flexible and lightweight, and since they are manufactured from plastic, these cells would be relatively inexpensive to produce in large quantities. In addition to this, due to the high transparency rating of the cells, it would be possible to use them directly on windows. This would make the windows able to actively supply some electricity through the solar cells, without hindering a person's ability to see out of the window. This will have widespread applications in urban environments where conventional solar setups are impossible or at the very least impractical.

Researchers have been working feverishly trying to develop more economical ways of integrating solar cell technology into a broader usage. Most current solar cell technology relies on inflexible and often bulky technology in order to capture enough solar power to be useful. The cost of traditional solar cells has always been fairly expensive. This has caused an influx of interest in new solar cell technologies that can help alleviate the shortcomings of current technologies. PSC technology is being investigated seriously by researchers across the globe, due to the major advantages it has over current technologies.

So, if you live in a high rise, in a few years you also could have an extremely affordable alternative energy source. Keep abreast of your home improvement stores even if just by checking online. I suspect that this new technology will be rushed to market very quickly.

Solar Power

Solar power is the process of collecting the energy produced by the sun over a specified surface area and then converting that collected energy into usable electricity for homes and buildings.

Solar energy systems use solar panels made up of photovoltaic (photo means light and voltaic means electricity) cells to collect and convert the sun's energy into electricity that we can use. Most photovoltaic (PV) cells are made from very thin layers of silicon and then impregnated with tiny amounts of elements like boron and phosphorus. They are relatively fragile, so creating solar panels at home requires some skills.

Energy is produced when the sun's rays contact the photovoltaic cells and a "reaction" occurs. The semiconductors absorb the sun's energy. This causes electrons to break free from their atoms and push through the cell's substrate to create electricity.

Today, PV solar modules supply electrical power to more than one million homes worldwide. This technology supports thousands of jobs and creates sustainable economic opportunities. The applications for solar PV energy today include communications, refrigeration for health care, crop irrigation, water purification, lighting, utility power and other residential and commercial applications.

Types of Solar Energy Systems

A portable photovoltaic system is a simple power supply. It can operate just about anything you can imagine. It is a great system camping trips and survival back up power. It costs between \$200 - \$500.00 to assemble at home. This system easily pays for itself in a few short months.

You can find these systems already assembled online.

The components and the order of their connections for this simple system are:

1. Energy source or PV Panels
2. Charge controller
3. Deep Cycle Battery
4. Inverter

Most households that are already tied to commercial grid power use an on-grid solar power system. One of the selling points of these interactive solar electric systems is the ability, in some energy efficient households, to generate more electricity than is being used by the home through net metering. As these are expensive commercially, the ability to recoup some of the investment is an attractive idea.

We must point out that with this system, if your power from the commercial grid is interrupted, you will not have power in your home. So for survival when the power grid is down, it is not a viable option.

You will need to consult your local electricity provider and state regulatory agency for more information on net metering in your area. The components for this solar power system are:

1. Energy source or PV Panels
2. Array DC Disconnect
3. Inverter

4. AC Breaker Panel
5. Kilowatt Per Hour Meter
6. Grid tie in

An on-grid system with battery back-up is the same as the grid system, but has additional battery elements for storing energy. This stored battery power will be used in times when the sun is not available such as a cloudy or rainy day or when power from the grid is interrupted.

The components for this solar power system are:

1. Energy Source or PV panels
2. Array DC Disconnect
3. Charge Controller
4. Deep Cycle Battery
5. System Meter
6. Main DC Disconnect
7. Inverter
8. AC Breaker Panel
9. Kilowatt Per Hour Meter
10. Grid Tie In

The off-grid solar energy system is a popular choice for remote locations where the cost of running commercial electricity would be too great or too intrusive on the landscape. This is also the option chosen by those individuals who do not wish to see that monthly electric bill in their mailboxes. The generator is included in this system to charge batteries in situations when there is not enough sun exposure to produce the home or business' electricity needs.

The components for this solar power system are:

1. Energy Source or PV Panels
2. Array DC Disconnect
3. Charge Controller
4. Deep Cycle Battery
5. System Meter
6. Main DC Disconnect
7. Inverter
8. Generator
9. AC Breaker Panel

The cost of purchasing a commercial solar generator or a solar energy system at a retail value is not a pleasant thought for members of the average income household. However, building your own solar generator is a cost effective way to introduce

alternative energy into your home or business and it is a lot easier than you probably imagined. The photovoltaic (PV) cell life span usually includes a manufacturer's warranty which may last for 20 years or more.

Every state and/or local governmental agency has their own set of guidelines and codes regarding the ways that alternative energy sources are connected to the AC breaker panel. It is recommended that you always employ a qualified, licensed electrician, who is knowledgeable about PV systems, to connect your alternative energy system to the AC breaker panel.

Always check with your local jurisdiction for rules and regulations regarding having a "grid-tied" electrical system BEFORE you attempt to connect your PV system to the local utility!

It is possible to run your appliances directly from your inverter. This would eliminate the cost of hiring an electrician and tapping into the commercial grid system. We recommend that you connect to your commercial utility (electrical company) as opposed to only utilizing the Inverter.

A Dream Appliance for Your Wish List:

As an brief aside, One question will probably occur to many: are there certain brand names that are better than the others? Generally speaking, the answer to this question on is no, the particular characteristics of a refrigerator are more important than brand names, especially when an ENERGY STAR label is present.

However, there is one company selling a line of electric refrigerators that are just perfect for those who are trying to make things work off the grid—Sun Frost. Sun Frost refrigerators and refrigerator/freezers are specially designed to work with home solar energy systems or other renewable sources of power. These refrigerators are the cream of the crop in energy efficiency, as most models use less than half of the energy that is required to run normal energy-efficient machines of similar dimensions.

While Sun Frost does have units available that work on either AC or DC, it is their 12- and 24- volt DC models that achieve the highest levels of energy efficiency, since direct current can go straight from battery bank to appliance without the intervention of an inverter, thereby reducing energy loss by up to 10%.

There is really nothing revolutionary about the Sun Frost refrigeration system. What sets Sun Frost apart is just excellence, pure and simple. The manufacturers of these refrigerators have embraced the principles of sustainable design to the fullest and have condensed and streamlined everything as much as possible. Sun Frost refrigerators generate little heat or noise, run much less frequently than other models, preserve food

up to three times longer than conventional refrigerators by maintaining high humidity levels in the interior, and can last up to 60% longer than normal energy-efficient units.

So is there a downside to Sun Frost? Yes, there is, and it is exactly the one you would expect. In life, you get what you pay for, and the high-quality refrigerators produced by Sun Frost do indeed come with a hefty price tag. Even their medium-sized refrigerators or fridge/freezer combos sell for \$2000 or more, and a full-size model can cost as much as \$3500. In all honesty, the money saved on electric bills for those living on the grid probably would not be enough to off set the cost of a new Sun Frost refrigerator, which is why it really is a better choice for people who have abandoned the grid and need to keep their energy usage down because supplies are so precious.

Probably the best thing that can be said about Sun Frost refrigerators is that they represent the shape of things to come, as it is inevitable that some of the innovations that set them apart will gradually be adopted by other manufacturers looking to improve the design of their cooling machines. The fact that they are actually customized specifically to be used with solar photovoltaics or other forms of energy that rely on battery storage is especially exciting, since any imitators that come along are also likely to produce refrigerators that will work nicely in an off -the-grid setting.

Wind Power

Wind power has been used for centuries. Windmills are a familiar site in Europe. Rural agrarian America was no stranger to their use either. Today, wind power is making a comeback worldwide.

A wind turbine contains some rotating blades which actually transform the power of the wind into kinetic energy. The kinetic energy is then collected by a generator. The part which enables the transition of kinetic energy to the generator is the shaft. Now, it is within the generator that the electricity is produced by force of electromagnetic induction.

Energy is released due to the fact that some magnets spin around a coil. Electrons are set free from their atoms due to the force of the wind which moves the magnetic fields, generating power, and this power, called kinetic energy, is then turned into electricity.

Wind Turbine Energy

To answer that question, we must determine how windy it is where you are planning to install it. This is not a question about whether it is ever windy where you live, it is

probably windy during storms, but that is merely an observation about the weather. What you want to know about is the long-term average wind speed for your area, or historic climate data, not day-to-day weather. Obviously it will produce a greater amount of energy the more the turbine spins.

What Is a Small Wind Turbine?

They are designed for individual homes, farms, and small businesses, and are electric generators that utilize wind energy to produce clean, emissions-free renewable power. They are defined as having rated capacities of up to 100 kilowatts. Keep in mind that the wind turbine is simply a collector just like a solar panel is. In this case, the collector is the spinning rotor, made up of a number of blades that rotate to turn the electrical generator. Small blades result in a small rotor diameter, which translates into a small collector area, which further translates into small amounts of generated electricity.

Buy or Build one?

Before buying a wind turbine, you must determine if it will really be convenient for you to buy one. In order to determine this, you must establish the proportion of wind speed in your area to how much energy you monthly consume. 10 mph should be the minimum average wind speed, and, with respect to the energy consumption, that is much more easily controllable, in case it needs to be controlled.

Not all people find it convenient to buy a wind generator, even if most of them admit that such a device finally proves to be worthwhile. It's just that they simply cannot afford to pay some thousands of dollars for such a piece of machinery. For such people, building a wind generator is the one satisfying solution, since the costs will not exceed \$ 100.

But just to make it clear, first of all, face the reality! Do you or do you not live in a frequently windy region? If not, you should better use systems that fit your climatic circumstances.



In order to build a wind turbine you will need a DC power motor, a body assembly, a tail assembly, the necessary blades for collecting the wind power, a hub to connect the propeller to the motor, a battery bank, some nuts and bolts, and some hardware. As for

the tools, some screwdrivers, a grinder, a jigsaw, a socket set and some sandpaper should be enough. Also, make sure a tower is in the close vicinity of your home.

Now all you need is to find a good step-by-step guide and get to work. There is not much to beat the magic moment when your wind turbine starts to turn and power flows into your battery for the first time. Two things are critical: patience and a lot of wind!

Wind and Solar Power Working Together

Wind and solar power are both excellent alternative forms of energy that are efficient and can save you a lot of money. These two types of energy have been used successfully for decades, performing very well separately. Recently, there have been great strides in both technologies. It is now possible for a home to be solely powered by wind and solar electricity, saving the homeowner money on electricity. Combining both wind and solar power into one system can save even more money.

Solar power is a viable option for a lot of people to install in their homes. Solar panels generate power from the sun, and that energy is stored in a battery. The excess energy is sent to the power company, which gives you the funds to be able to buy power when you need it.

Ideally, sending this extra power back to the power company will actually make you money. But during the night, or during a rainy season, you may not be able to store enough energy to power your home.

Wind power is the fastest growing form of renewable, clean energy. When the wind turns the turbines, kinetic energy is converted into mechanical energy, which is then converted into electrical energy through a DC motor. Conductors connect to a system for storage, which is necessary because of the erratic levels of energy production. Because the wind does not blow constantly, your electricity would be constantly flickering if you did not have this store of energy. Still, not all areas are prone to all that much wind.

So how can you optimize your savings and even make money on your decision to provide your own power? The answer is to combine both solar and wind energy. These complement each other by performing when the other does not.

Wind turbines can operate during the day or night, as long as there is a breeze. When there isn't a breeze, hopefully there will be sun to increase your solar power reserves. You can see why, while solar and wind energy are very efficient alternative sources of power on their own, when they are combined, they save even more money and power. They are both clean, renewable, easily distributed, and emit no greenhouse gases.

Alternative Communications

Recent events in the US proved the telecommunications grid to be both robust and fragile at the exact same time. The sheer number of people using their smartphones are capable of causing cell towers to overheat and shut down. Even when cell service was down in New Orleans during Katrina, some hotels in the French Quarter had landline phone service. Logically, you'd think the connections would have been shorted out.

The point is that we just don't know what communication will work after disasters. Cell phones and landlines can be a great primary means of communication, but if they aren't working, it's smart to have one or more backup means of communication. It's not only going to be smart to have backup communication for when your primary communication stops working, it's also going to be necessary to have a simple, efficient way to power your gear.

Email

If the phone service isn't functioning due to the crisis, there might be other viable ways of communication. E-mail, for instance, could be an option. After serious emergencies, phone lines are often clogged up with hundreds of thousands of people, trying to get a hold of others during the emergency. But, e-mail may still function on a DSL connection even with the logjam. If the phone lines are not functioning at all, there are other alternatives. The possibility that a local wireless hotspot is still functioning is good, not to mention cable connections and other non-phone based internet connections.



E-mail doesn't require you and the person you are contacting to be personally engaged simultaneously. Even if they cannot immediately check their e-mail, the message will be there when they can read it. Having a free e-mail account for your family may be a good idea as well.

If everyone in your family knows the e-mail address and password, you can save a message as a draft. This way, anyone in your family can access the message and spread the word between them. Considering the message is saved to the account and not sent out, the chances of it being lost is considerably less. Having multiple free e-mail accounts for the family is a prudent idea as well, just in case one service is down. Then they can check the other

services for a draft message. Using different free e-mail services with the same username and password is ideal in this case, so there is no confusion between the e-mail accounts.

If the information is not sensitive and doesn't need to be kept just between your family members, you may consider using a social media outlet too. Twitter and Facebook are the two most popular, but there are many other digital media services available. A blog on Blogger.com is another possible solution. This is ideal if the information is not private for just your family, or if you need to share information with other people who follow your social media sites.

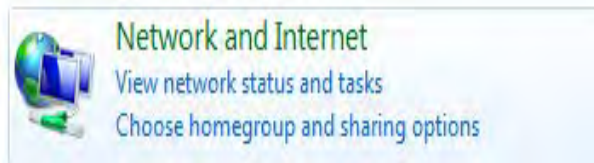
Considering the sensitivity and need for privacy for any message you send is of utmost importance. Assuming that a message may get lost or deleted is a good idea. In the case of outages of services or dreaded censorship, you have to be aware that the message may never be received. Conversely, it is also wise to assume that any such message will also be posted online and will never be deleted. Posting information you would not want readily kept available on the internet is a poor idea, after all. As many publicized cases have shown, deleting information posted on the internet is extremely difficult, if not impossible.

VOIP stands for Voice Over Internet Protocol, which is a way to use a program online to initiate voice conversation. Well known examples include Skype, Vonage, and Magic Jack. If you have an exceptional internet connection that is not interrupted by any catastrophe, a VOIP solution is ideal. With this connection, you will be able to talk to other VOIP users who have not lost access, and keep a potential lifeline to the outside world available. In the case of a major catastrophe, this would be absolutely invaluable.

How do I Connect to the Internet after a Disaster?

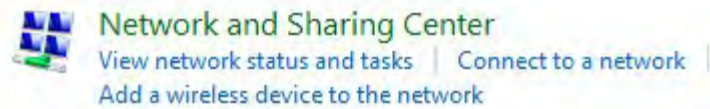
When a major disaster strikes, people often do not think clearly. People often assume the phone lines are not functional. Sometimes, no one even tries to make an outgoing call for several days.

But let's assume for a moment that your phone is dead, and your internet is not working. There is another option at your disposal to attempt to find an internet connection! This technique is called 'wardriving'. This technique boils down to driving around an area, scanning for unsecured wireless networks. Frankly, it is a method to steal access to these networks in order to gain internet access. Please keep in mind, USING this access is illegal, and should ONLY be used in the case of extreme emergencies! While there do not seem to be any laws in place regulating wardriving to see if there are connections, actually using the connections is illegal. There are multiple devices sold online that allow you to properly seek these wireless networks out.



Assuming you do not have one of these, scanning for local networks with a laptop would also work. Many smart phones are easily able to detect these wireless access points as well.

If using a laptop, it's actually a very simple process to find local networks. Simply open the network setting connection on the laptop labeled Connect to A Network and drive around the area. You will find that most residential areas are filled with a great many networks. Testing these local connections to find one that is unsecured will be trial and error, but many people do not set up any wireless protection for their internet connection. It shouldn't be too difficult to find a connection in the case of a serious crisis!



There's probably a very good chance a resident in your area has an unsecured wireless connection. If the situation is serious enough that the reward outweighs the technical illegality of the action, then it's an option you have to consider. If your cell phone and landlines are not working, having internet access to post information up, or check your e-mail could be vital. Many wardrivers actually leave some sort of marking to specify an area that has available access. The people who leave these markings are called 'warchalkers', and often leave the markings on a nearby object, such as a sign, walkway, lamppost, or something else noticeable nearby. Many coffee establishments also offer free wi-fi, which is something else to consider in case of a massive emergency.

Practicing the technique of wardriving will allow you to see just how easy it is to access an unsecured network. Since most websites actively track IP addresses, any illegal activities committed on an unsecured network would be initially tracked to the owner of the network. If you have an unsecured network and a criminal accessed it to do illegal activities, the authorities would trace it to you. The burden of proving your innocence for these acts would be time consuming, and potentially costly. Standard network passwords are usually the same based upon the type of router or access point you use. Not only that, but these types of criminals could also change your password, completely locking you out of your own network. This is why it is a good idea to take security steps, in order to make sure you are protected. Steps you should take include:

- Checking your wireless connection to make sure security features are enabled.
- Changing the password so that it is not the default password.
- Writing down your router/access point's password, and storing it in a secure location

- Never allowing anyone outside your family to have any password or your router/access point's WEP Key information, or any other access point information

By taking these steps, you will ensure that no one outside your household is able to access your network. It's better to be safe than sorry!

Other Possible Communication Devices

In the event that your phone services are all inaccessible, and you cannot find any internet access, there are other ways to have a communications system. If simply being informed of outside events is all you believe you need to be concerned about currently, there are many receive only radio systems that will be beneficial. While they do not transmit out messages, they can be a lifeline to the outside world. There are some models you can purchase that have alternative power sources, so that batteries are not an issue.

One such example has several different non-battery power sources. This specific example, the Kaito Black Explorer is a superb choice for a radio receiver. It receives 11 different bands of radio, including standard AM/FM, and weather stations, along with some long-range shortwave bands (which will be discussed more in depth later). This model has a hand crank and a solar cell to provide non-battery power. In addition to this, it contains an LED flashlight, and LED reading lights. Most amazingly, this device has a USB port, which can provide short term emergency charging to small devices. This remarkable device would be an ideal survival tool, but there are many others available on the market as well. Whatever the case may be, researching a radio receiver is definitely worth considering. While you won't be able to transmit, in an emergency crisis situation, you wouldn't be cut off from news.

But of course, having a two way communications system is still preferable. A crude but effective way to communicate in dire times is by using graffiti. In addition to simply writing words and phrases that apply to an area to both inform and warn other people, there is another system. The system is essentially a hobo chalk code system, which hobos used to communicate important information to one another in their travels. There are web pages that show many of the old hobo codes that you can study to learn how to communicate by using these codes. In the total absence of any technological devices, using graffiti in several ways would be an invaluable tool.



On a more up to date technological level, it is possible to buy a satellite telephone and service plan. The plus side to a satellite phone is that the calls are all made by connecting to a satellite, instead of a standard cell phone tower. The likelihood of a satellite service going down compared to a terrestrial cell phone service is very low. These systems also work in many places cell phones will not, including at sea. But satellite phones have major drawbacks.

For one, these systems' effective range is dependent on the satellite's coverage range. Few satellite systems cover the entire globe. The worst drawbacks are financial. Satellite phone systems are prohibitively expensive; some of them run well over a thousand dollars. In addition to this, the cost for service plans is generally exorbitantly high. If you have a lot of money available to invest in an emergency communications system, this may be a viable option. For most families though, the cost is simply too great to make this practical.

Less costly options exist in the form of radio transceiver systems. Family Radio Service (FRS) and General Mobile Radio Service (GMRS) radios are good alternatives. Both of these radio types are similar to walkie talkies, and have generally good range. While the manufacturers claim the range can extend in some cases up to 37 miles, the reality is that for most people the range will be up to a mile. While it is technically possible to have extremely long range, the geography of the earth and the buildings in an area hamper the signals of these radios. GMRS radios have an additional requirement that you need to have a license to use them legally. A license costs approximately \$85.00, usually lasts for 5 years, and can extend to any family members in the house. Keep this in mind if you plan to get a GMRS setup. FRS radios do not require any additional licenses or fees, simply get enough radios for your family, and you are good to go!

If you buy one of these radio systems, testing their effective range locally would be an ideal course of action. That way you have a good idea of how far you can be apart from your family while still being able to communicate. You may wish to buy a radio setup with multiple power sources as well. If you rely on a rechargeable system and the power is out during a crisis, you will be unable to charge them. By the same token, if you run out of batteries and cannot replace them easily, they will be little more than paperweights. There are several models of these radios that have both an internal rechargeable battery as well as standard battery slots.



Another option would be to have a Citizen's Band radio (CB). In an emergency situation, these can be valuable for contacting people as well. They were quite popular several years ago and you may already have one sitting on a shelf somewhere in your garage. Most commercial truck drivers still use these as a communication device on their long drives, another possible communications outlet in

times of crisis. For interfamilial communications, these are not nearly as ideal however. While a home base CB with a good antenna can project its signal out a reasonable distance, finding a portable CB with an antenna that projects well is extremely difficult.

There are other radio types that may work but some of them require licenses. HAM radios have extremely long range, thanks to using shortwave and other long-range bands, but require licensing. The licensing difficulty will vary from country to country, with some countries having extremely stringent licensing requirements. The biggest upside is the huge range some HAM radios have. Utilizing shortwave technology, it is possible to speak with people in other countries. The International Space Station even has a HAM radio station set up, so it is even possible to talk to people in space! In the event of a global emergency, this type of radio would be ideal for seeing how people in other countries are managing to survive. The key thing to remember with shortwave HAM radio systems is the preparation to have a proper setup. The systems are usually not cheap, and you must have the proper licensing as well. Their cost most likely will not be as high as a satellite phone system.

With any technologically advanced two-way communications device, safety is something you absolutely must account for. If a major crisis breaks out in your area, it will be difficult to know who to trust. Anyone that uses the same type of radio device as you do will be able to hear what you say, if tuned to the same band.

Cool Tip

For situations where you are worried about who might be listening in, devising a code system for your family and team's use is a prudent idea. You will need to practice using any code system you devise with your family, but if sensitivity to your information is a must, then the effort will be worth it.

Having a personal code letter is an important step to take. If you pick a code letter, it's easier to weave it into a regular conversation than a set name. This doesn't have to be complex. For instance, if you use A as your code letter, any name that starts with an A could be woven into coded messages. Since you want any such conversation to sound natural and uninteresting to others, flexibility in how you use such a code system is imperative. By using a set name all the time, it would alert any unwanted listeners to the possibility you are using a code. The idea is to be able to relay information between your family or group without alerting anyone else to the exact nature of your sensitive information. In addition to this, having code words to specific dangers, or to relay important information, should be devised. Some code words you should have in place include:

- Need assistance
- Flee the area
- Change channel and/or watch what you say; others on the channel,
- Meet me where I am
- Suspicious people in the area, and location/distance from your location

If a radio system is an ideal solution for you, being properly prepared is a must. It's important to have system in place so that you are unafraid to relay information between each other, whether coded or not. After all, your life may very well depend on it.

How to Power your Survival Equipment

Now that you have your proper survival communications equipment, the next step is being prepared to keep it powered. There are several different tools available to purchase. The most basic options include solar cells, hand crank electricity producers, batteries, and generators.

Solar cells are a very good power source for multiple reasons. Since they collect energy passively from the sun, there is no effort required to get power from them. They also will last virtually forever if well taken care of and maintained. The biggest downside is that they are more expensive than most of the other basic options. A lack of sunlight also completely hinders any generating capabilities, meaning only the already stored power will be usable. In addition to this, great care must be exerted while handling the cells or panels, as dropping one would almost certainly break the entire unit. To generate sufficient power, you must take both time and size of the cell into consideration, which will be covered shortly.

Hand crank power generators are another wonderful option, and are increasingly more common in recent years. It is now easy to find a hand crank generator that contains a power outlet socket, so you can plug and charge. Since you can do it yourself with the hand crank generator, it makes this an attractive option. Of course, these hand crank generators require a lot of cranking to get a lot of power generated. As such, you should definitely make sure you are able to continually crank for long periods of time before making one of these a cornerstone of your power solution system. A good way to see how long you could effectively use a crank in one sitting, try cranking a pencil sharpener for a while.



Both of these options require no gas like a generator, and won't die like batteries will. They will have the longest staying power out of the four basic options outlined above. Unfortunately, they are more complex than you might realize. When shopping around for solar and hand crank power solutions, the claims on how much power they generate will vary, and will often be misleading. So here comes some technical stuff to help it all make a bit more sense!

I apologize here in advance. This next bit is going to make your eyes glaze over. If you cannot stand to read it; skip over and read on. You will soon find out why I had to bore you to tears. If you don't understand the data, it could affect your family's survival. To help break it down for you to understand what the technical terms mean, I will have to explain a few terms for you. The terms are electricity based and include watts, amps, and volts.



To start with, picture a fire hose spraying water, and I will explain the equivalent with electricity. The total volume of water spraying from the hose equates out to amps. The actual water pressure would equate to voltage. And the total amount of water sprayed per unit of time would be the wattage.

The relation between these 3 units of electricity is explained with the simple equation $\text{watts} = \text{amps} \times \text{volts}$.

AA batteries have 2 voltage capacities, either 1.2 volts for most rechargeable batteries or 1.5 volts for standard alkaline batteries. Most alkaline batteries have around 2000 milliamps (mA), while NiMH rechargeable batteries have between 2000-2500 mA when completely charged. AAA batteries have approximately $\frac{1}{2}$ these figures, power wise. Using this information together, a fully charged 1.2 volt AA battery with 2500 mA would hold $1.2 \text{ volts} \times 2.5 \text{ amps}$ of power. This would mean that the battery produces 3 watts of power, and would supply enough power to a device requiring 3 watts for about 1 hour.

Okay here is where we enter the buyer beware area. One popular small solar cell battery charger advertises that it puts out a certain amount of power. Their claim that it can charge 4 AA batteries in 3-6 hours is pretty inaccurate however. Similar to the apples and oranges approach taken by automakers to arrive at their MPG ratings, many manufacturers based their estimates on batteries you would not use. The batteries have

1/5 to 1/4 less power than the batteries you would be using. What this means quite simply is that it would actually take a whopping 31 1/4 hours of direct sunlight powering the solar charger in order to charge standard rechargeable batteries. As in the MPG example, they also assume ideal conditions like continuous full sun all day. It's just not realistic.

Crank chargers are a bit better in efficiency. The aforementioned Kaito Voyager has both a solar panel and a hand crank. The solar panel efficiency equates out to 4.5v, 40 mA/hour maximum. The hand crank does a bit better at 5-6v, and 500-600 mA/hour maximum, assuming 2 cranks per second. Significantly better than the solar panel, but it would still require a bit over 4 hours of cranking to fully charge 4 2500 mA rechargeable AA batteries.

There are valuable lessons to learn from this, and keep in mind:

You've heard this time and again--do test your survival equipment ahead of time, before an emergency dictates you have no choice. Just because an item claims it can do something properly, doesn't mean it can do so in a reasonable amount of time. If you aren't willing or able to use the hand crank for 4 hours at a time to recharge devices, then find a different solution that will work for you. In addition to this, if you don't have days to spare to charge your batteries, consider getting a bigger solar cell setup, so that you may charge them in a more timely manner.

Cool Tip

Remember the math equation for power while looking at solar cell or crank chargers.. You need to make sure that you are using fewer mA per day then you are generating to maintain continual power. Keeping the equation in mind is important if the charger you are looking at doesn't have the proper measurement you are looking for. For instance, the charger might be rated on the wattage.

For emergencies that leave you powerless for a short period of time, consider keeping a large stock of batteries on hand due to the time it takes to fully charge the batteries (remember to rotate the stock). Many devices will give an estimated usage time per battery life cycle in the technical specifications. While these can be inaccurate based upon continual usage, it's a good starting guideline. Having at least one, if not several big 30 packs of batteries for the types you require is ideal.

Cool Tip

I mentioned this earlier— 90% of the people interviewed that looked for solar cell energy solutions wind up going to Costco and purchasing a generator.

While there are a lot of important details to keep in mind when considering buying a solar cell or crank power generator, they are still valuable tools in survival situations. Knowing the limitations and proper charge time ratios is essential in making a purchase for one of these systems. Keeping this in mind, here are some good options for purchasing a system designed for short to long-term survival situations. Since technology is constantly evolving, I will not get into specific models here. I also mentioned the new polymer solar cells for windows that will probably be available fairly soon. With technology ever evolving, prices are bound to lower as well.

If your needs require rapid charging of your rechargeable batteries, you will want to look into a more powerful solar system. A 12 watt charger system can be found for 200 dollars or less at many retailers online or at their retail stores. This equates out to 600 mA per hour charging power, which is a big step up from smaller solar cell output. The next step up costs quite a bit more, but will provide much more charging power. For around \$600, you can invest in a 40 watt solar cell system. This array also comes with a charge controller, an inverter, a 12 volt DC outlet, battery, and mounting supplies. (I saw a system like this on sale for 60% off at Amazon of all places...so check around!) Of course, keep in mind the equation to determine how long to charge batteries. But also, be sure to check how much charging power your batteries can handle, as most batteries have an upper threshold of how fast they can charge.

The best part of this more expensive system is having the large capacity lead acid battery. This battery holds the equivalent of over 200 AA batteries when fully charged (and we will revisit these types of batteries shortly). It holds enough power to supply electricity to nearly anything you may need it for, and can be plugged into a simple cigarette lighter with the adapter. With the included 120 volt inverter, you will even be able to power small household appliances in a pinch. Brunton makes smaller foldable versions of systems like this, but they can be quite a bit more expensive.

When it comes to batteries, all batteries are not ideal for using with a solar system setup. For instance, a car battery is designed to put out a high



amount of electricity for a short span of time then nearly instantly recharge. This type of battery is called a shallow cycle battery. These types of batteries are intended to be kept near peak capacity as much as possible. If this type of battery is drained more than 20-30% of its capacity, it dramatically reduces their life span. You know, if these types of batteries are left drained for more than a few days, it is entirely possible to completely ruin them entirely. This is not a good choice to use with a solar cell system for survival purposes.

So what type of battery will be a good fit for a solar cell system? Deep cycle batteries are the ideal battery solution for this type of setup. These deep cycle batteries are designed to be drained up to 80% of their fully charged capacity, a dramatic step up from shallow cycle batteries.

To give you a better understanding of the differences between these battery types, I will give a simplified explanation. A lead acid battery internally has a composition with lead plates dipped in acid. The power generated by this battery is entirely dependent on how much surface area of the lead comes into contact with the acid. In a shallow cycle battery, the lead plates have a large surface area, and are comprised of smaller, sponge like metal plates. The problem with the way they are designed is that these lead plates corrode extremely fast if the battery's charge isn't kept at optimal levels. Deep cycle batteries are a bit different. The lead in these types of batteries is large, solid blocks. This lead does not have as much surface area, but is built to withstand a much deeper drainage of power than a shallow cycle battery.

The other major difference between shallow and deep cycle batteries is the price. Higher end Rolls 12 volt deep cycle batteries can cost in excess of \$1000. However, you should be able to find other brands of deep cycle batteries cheaper if need be. MK deep cycle batteries are generally much more affordable.

Cool Tip

Rolls brand batteries can be drained up to the 80% mentioned, and have an extraordinary life span of between 7-15 years. Some examples of deep cycle batteries can be found in golf carts, RV's, and aquatic vessels among other vehicles.

Whatever the case may be, if you choose one of these batteries, make sure to properly read the instructions. These batteries come with specific maintenance instructions that should be followed to the letter. Improper battery maintenance could lead to several negative effects. Poor maintenance can lead to a shortened lifespan, damaging acid leaks, and even a complete battery explosion. All of these outcomes are negative, and

will dramatically impact your plans with your survival system. As a final note, these deep cycle batteries (along with car batteries) should never be stored sitting on concrete. This will make the battery drain extremely fast, which is a very poor outcome.

When it comes to solar solutions, there is no possible way to have the sun available to charge these systems all the time. Even during the summer, multiple factors can hinder the solar cell's ability to collect and store energy. Whether its clouds and storms, smoke in the air from fires, or the location you live in not being ideal for sunlight, it's difficult to have optimal conditions all the time. This is when a generator could come in handy.

While most generators are powered with gas, there's no way to know if you will be able to access gas during an disaster or crisis. Not to worry, there is another way to make a generator work without gas. Perhaps you have seen a commercial showing someone pedaling a bike to generate electricity and laughed it off? Well the truth of the matter is that there is actually a viable system with a setup like that to produce electricity. Hopefully you or someone in your family is in good enough physical condition to be able to use one of these systems in the case of an emergency. This is just one of a hundred reasons, I keep bringing up the importance of exercise.



Essentially, there are pedal systems that work to power a generator. There are systems that power a battery with a charging adapter. There are DIY tutorials online if you are mechanically adventurous! But if not, there's no need to fret. You can buy pre-assembled systems that will work with any standard bicycle. A pre-assembled pedal system will cost around \$300 and, when used by someone who is in reasonably good health, will put out 150 watts of power. This is a dramatic jump over what a reasonably priced solar cell system can achieve, nearly 4 times as much as the one previously mentioned.

No matter what power solution you decide to enact for your survival system, having the knowledge contained here will be invaluable. Even if you are only able to remember 20% of the information contained here, you will have a big leg up on the vast majority of the population of the world. Most people are simply unprepared to deal with major emergency crises.

While some of this was more technical than the norm, its valuable information to peruse and have available to you. When advertising claims on some of the solar cell and crank power generators are often over exaggerated, knowing more truthful technical figures could be a legitimate life saver!

Conclusion

You already know the importance of preparation, or you wouldn't be reading this book. You can learn from all the guides how to question yourself and make checklists. In the throes of a crisis, you will not risk losing your cool or forgetting important parts of your protection plan.

What will you need to have on hand? Who will help? How many layers of protection will you need in your situation?

This is a book about comfort in the light of a crisis. If you are not mechanical and willing to build some of these things, the strategies mentioned here are not going to be affordable. You may have the funds to throw money at the problem, but most of us are in that position. These books are about expanding your self-sufficiency and building what you can't afford to buy. Another thing to keep in mind, if you have a few survival buddies, one of them may have the mechanical aptitude that you lack.

Survival For Children And Seniors

Talk with your spouse about inflation and the wisdom of starting to buy double of some or all of the non-perishable items that you currently consume. This is one of the simplest methods to use with your spouse or companion to get them on board with disaster planning. Instead of taking out a second mortgage on the house to buy supplies and equipment and risking starting WWII at home, you can suggest something like this. "Honey, the news says we are in for some hefty jumps in food prices and toiletries. When we can afford it, can you pick up 2-3 extra of the non-perishable items we use most often when you go shopping?"

You don't have to mention disasters or survival. It completely changes the conversation from being a potential bone of contention to an "Oh, by the way..." conversation. Another supporting argument for this strategy is to say, "Think of it like a savings account. If we need some more money in a few months, we just eat some of our extra food and use the money that we would have used to BUY food." Note I said, extra food instead of survival food. This is intentional to avoid any objections to survival topics.

Of course, you do want to get your partner on board with your survival preparedness. But, this is best accomplished gradually over time. Don't put it off though because it is a lot easier to convince the kids if you are both on the same page.

Talking To Your Kids

The trend in America is to shield our children from unpleasantness. This is misguided because it doesn't really work. Technology gives your children access to information about disasters, crises, and tragedies. Remain calm. Children take their cues from you. If you're agitated, they won't even hear the information, they'll hear your emotion.

You want to be listening to what they are concerned about. Be honest, but don't overdo the details. Take the opportunity to put a survival spin on these events with them. It is better that they hear it from you. It turns a fearful situation to one of hope. Mental preparation goes a long way towards turning whiners into winners.

A Word About Tweens And Teenagers

It seems now days every kid over the age of 5 has a smartphone. With that territory comes taking pictures and social media. As adults we do our best to regulate what they say or do online, but they spend a lot of time away from home at school and they talk. What you need to impress on them is not to talk about your survival preparations. Easier said than done, especially with teenagers who are prone to moods of defiance.

You and every one in your family needs to keep your preparations secret. Otherwise, those that didn't prepare will be standing in line outside your door begging for food.

An even more sinister reason is there are millions of people who are addicted to legal painkillers. In a crisis, when their drugs run out they all are going to be like ravening wolves. All it takes is for your child to say the wrong thing in front of the wrong person and your home will be a target; perhaps even before a crisis, if they know you have guns, which can be turned into money to buy more drugs. Friendships and romantic relationships are more fluid than ever today. Your children's friends may be visiting your home one week and banned the next. Anger, hurt feelings, or a desire to lash out can shred the curtain of secrecy that protects your family from harm.

Before Disaster Strikes

You don't have to wait for something to happen to find teachable moments. You can take things your children are interested in and give them a survival spin.

For example, many children are fans of certain book series. Living with persecution is a lot like survival mode. X-men, Hunger Games, Harry Potter all can be used to explain what might happen and how your family may need to act in the various survival situations. Another example is the movies made from these books.

If your children play video games, you can use those to teach survival preparedness. There's a popular modification (or mod) for an existing video game that may help teach things about survival as well. The mod named "DayZ" for the game ARMA 2 has gained widespread popularity over the past year. Though the mod is still in development en route to the developer releasing the game as a stand-alone product, it has proven quite popular. Within 4 months of its first release over 1 million people had played, and sales of ARMA 2 had shot up dramatically, with many sales apparently just to play this mod. In this game, players are placed in a theoretical zombie apocalypse situation. They need to hunt for food and water to survive, as well as search for weapons and ammunition. Finding shelter to keep their body temperatures under control is also important. In addition to this, players may find themselves wounded and deal with broken bones, wounds that require bandaging so that your character doesn't bleed to death, and other such maladies.

But the most dangerous element to the game is the other players. Other players on the servers are free to do as they wish. They may try to be neutral and assist you, or they might decide to shoot on sight to take your supplies. In fact, some players play the game essentially to only hunt down and kill other survivors for their belongings! With an open world and no consequences for killing others, it's a viable game strategy. And death in this game is "permadeath", in that once your character dies, you have to start again with a new character from scratch. No restarting with all your gear here! The idea

has been floated around that the game might be a valuable tool in determining how people would react in life threatening situations.

Whatever your feeling are about video games, but there are a lot of survival lessons built into that game. Frankly, no matter how much we try to control our children's access to material like this, they do not live in a vacuum. Their friends play these games...they are exposed to them even if they are banned at home. You might as well make them work for you.

If Disaster Strikes Close To Home, Tips For Helping Your Kids Cope

Give yourself time to mourn. In a survival situation, you WILL lose things. It could be your comfortable life, possessions, friends, or a family member. You don't want to make your life about focusing on what you lost, but your mind will need to work through various emotions as you are moving forward with your life. - Keep looking forward, keep moving forward, and don't dwell on the past. Many people were paralyzed after Katrina with anguish over what they lost or fear of what they were going to lose. From the interviews that I did, it appears that these people were useless to themselves and useless to their friends and families. The people who thrived after Katrina and who are doing the best mentally years later are the ones who made a conscious effort to refuse to be a victim.

Over several days, children may return with further questions as they process the event.

Guidelines for parents:

- Inform: Explain and stay calm
- Listen: Let them ask questions.
- Normalize: Go back to your routine
- Encourage ways to help
- Memorialize if family members were touched by the events

Senior Survival

It's no secret that all of us today live in a fragile, fallible, and dangerous world. We're vulnerable to disaster at every turn, whether from natural occurrences like ice storms, wildfires, hurricanes, tornados, floods, etc, or man-made assaults, such as terrorist attacks, burglary, identity theft or other scams, chemical contamination, or other accidents with hazardous materials. With all that that can go wrong at a moment's notice, it is crucial for everyone to have a plan to survive a disaster, to gather supplies necessary to survival, and to take steps to safeguard yourself and your family.

However, if you are an older adult, or if your family includes older adults, there are some special considerations that you'll want to keep in mind as you draw up your survival plans.

Whether you are an older adult, or the adult child or caregiver of a senior, this guide is for you. It will provide you with practical advice and easy-to-follow steps for senior survival during a disaster. Take the time to read this guide today. If you are an older adult, talk with your family, caregivers, neighbors, and community leaders about how they can help you prepare for any disaster that might come your way. If you are a child or caregiver of an older adult, take steps today to help the senior in your life develop a survival plan. No matter who you are, the most important thing you can do is inform yourself, connect with those who can help you, and start preparing. Don't delay – the time to take action is now!

Make A Plan

As an older adult, it can also be frightening to face your body's limitations and vulnerabilities. Making a survival plan means admitting your needs, and being honest about what your body can and can't do. The beauty of a survival plan, however, is that it can be tailored just for you. Your survival plan might not be the same as one made by a younger person – and that's okay. By taking an honest look at your needs and abilities, and figuring out how to use your strengths and compensate for your weaknesses NOW, you are taking an important step to care for yourself, and to be prepared and confident when disaster strikes.

During some disasters, you will be able to remain in your home. During other disasters, however, it will be necessary for you to flee your home and seek safer shelter elsewhere. For example, if your home is severely damaged by a natural disaster, or if a disaster such as a flood or wildfire threatens your home, you will need to evacuate. Having an evacuation plan is an important component to your survival plan. As you develop your evacuation plan, ask yourself the following questions about your particular situation, or that of the older adult in your care:

Do you (or your loved one) live alone? Can you (they) safely evacuate the home alone, or will assistance be required? Who will provide this necessary assistance?

- Do you (or your loved one) drive or own a car? If not, what are the alternatives for evacuation?
- Are you (or your loved one) dependent upon medical equipment, such as a wheelchair, cane, walker, oxygen tank, etc?
- How is your (your loved one's) hearing and vision?

- How is your (your loved one's) general mobility? Are you (they) bedridden?
- Do you (your loved one) rely on a caregiver? What will this person's role be in an emergency? What if the caregiver is unable to reach you?

There are no right or wrong answers to these questions. However, answering them honestly now will enable you to identify and find solutions for any possible challenges. For example, suppose you do not own a car. In the event that you need to leave your home, what are your options? Considering these and making a plan now will save you much confusion and fear in the midst of a disaster.

If you are a senior reading this guide, know this: even if you live alone, there are people in your life, family, and community who can help you. Reach out to them and involve them in your survival plan. It may be frightening to contemplate the possibility of disaster intruding upon your life and confronting your physical limitations. However, in the end, making a disaster survival plan can help you relieve anxiety because you'll know what to expect and what to do in an emergency situation. Think of this not as worrying about something beyond your control, but rather as an opportunity to take control.

If you are the child, grandchild, or caregiver of an older adult, it's time to talk to the senior in your life about making a disaster survival plan. Know that this can be a difficult subject for some people (not just seniors). It can feel frightening and overwhelming to think and talk about possible disaster scenarios. Go slow. Offer suggestions and solutions, but also be sure to listen to your loved one's perspective, input, and fears. Make a plan that both of you are comfortable with, and that is realistic to your loved one's individual situation. The goal is to have a positive, productive, collaborative dialogue about what to do in an emergency situation.

Sometimes the idea of an impending disaster can seem so overwhelming that it's hard to know where to start, or to be sure that you aren't forgetting anything important in your plans. Following is a list of things you'll want to be sure to address **BEFORE** disaster strikes. Some of these are things that everyone needs to think about when planning for disaster survival, and some of them are more senior-specific concerns. In any case, as you make your survival plan, don't forget to make provisions for:

Essentials Be sure to keep your essential support items, such as wheelchairs, walkers, oxygen tanks, etc., in a designated place that is easily accessible to you, family members, and/or rescue personnel in the event of a disaster. Make sure that all escape routes are wheelchair accessible.

Don't forget about your **pets**. You'll want to have extra food and pet supplies on hand as you prepare for surviving a disaster. You'll also need to develop a plan for what you'll do with your pet(s) if you have to evacuate your home. Keep in mind that emergency

shelters do not allow pets (although they do admit service animals) for public health reasons.

Making a plan NOW should help alleviate anxiety and prevent heartbreak in the event of a disaster that causes you to flee your home. Begin now to prepare a list of family, friends, “pet-friendly” hotels, pet boarding places, veterinarians, etc, who could provide care for your pet during a disaster.

Personal devices You may need to locate these essential items (hearing aid, dentures, eyeglasses) quickly in the event of a disaster. Consider storing such devices in a bedside container that is attached to your nightstand with Velcro. In a disaster such as an earthquake, items that are not secured may move, shift, or fall, making them hard to find quickly. Also be sure to lie in an extra supply of batteries for your hearing aids or other assistive devices, and keep them in an easy-to-access location.

Medications The Red Cross advocates having at least a seven-day supply of all the medications you take on hand at all times. Try to store an even greater supply of your necessary medications if possible. During a disaster, pharmacies may close, medications might not be available, you may have trouble getting to your pharmacy, or there may be very long lines to get medications (as well as other necessary supplies, such as food and water). Also be sure to have a list of all the medications you currently take and any pertinent medical information. This is especially important for older adults who rely on caregivers. In the event of an emergency, your regular caregiver may not be able to get to you. It is important for rescue personnel, and others who are providing emergency assistance, to know what kind of medication(s) you take and what health issues you have.

Reach Out For Help

Remember that old saying “no man is an island?” Well, it’s true. No matter our age, we all rely on others to help and support us, and to do things for us that we cannot do ourselves. This is never truer than during an emergency. As you draw up your survival plan, recognize that you will need the help of others. Asking for help NOW isn’t a sign of weakness – it’s a sign of intelligence and foresight!

An important component of anyone’s survival plan is their support team. So, who should be on yours?

- Family members
- Friends
- Neighbors

- Caregivers

The time to have a conversation with these important people in your life is NOW, before a disaster strikes. Explain that you are putting together a plan for what you'll do in the case of an emergency, and ask how they can help and support you. Think of your specific needs and how each person might be able to be of assistance.

Perhaps you're concerned about the possibility of evacuating your house. Would your caregiver be able to help you? If you need to go to an emergency shelter, do you have a neighbor you could carpool with? Maybe you need help collecting and storing emergency supplies, or organizing important papers. Could your children or grandchildren help with these projects? Are you worried about what you'll do with your dog or cat in the event of an emergency? Perhaps you have a friend who could take you and your pet in.

Having an open and honest conversation with the important people in your life, where you present your specific needs, gives everyone a chance to get on the same page, and to make clear what they are willing and able to do. It also gives you the opportunity to reciprocate by offering assistance to those in your family and community. Help each other! Perhaps you have skills or talents your neighbors don't, abilities your friends no longer possess, or time your children can't seem to find. What can you offer them? Maybe you'll be the one to use your leadership skills to start a neighborhood watch in your community. Perhaps you'll help an older friend evacuate his home during an emergency. Maybe you'll make your child's family a disaster survival kit. Remember – whatever you can (or can't) do, it's okay. Tailor your survival plan to meet your specific needs and the needs of the important people in your life.

While planning ahead is great, remember that things don't always go according to plan. For example, in some disasters, travel is severely impacted, and family and friends may not be able to get to you as planned. Have a back-up plan! Know what alternatives are available to you if your go-to plan becomes impossible to carry out during an emergency.

Friends, family, neighbors, caregivers, and other important individuals in your life aren't the only ones you can reach out to during an emergency. There are also organizations within your community who can help you in the event of a disaster. As with the important people in your life, the time to connect with these organizations is NOW, before anything goes wrong. Find out what's available in your community and how you can make these resources part of your disaster survival support team. Not sure where to start? Why not try:

- Your local volunteer fire department. Let them know of your needs and see how they can help you in the event of a disaster. Your local volunteer fire department

is likely to be a good source of information about your community's response and evacuation plans. If you do not drive, or have another source of private transportation, now is the time to find out what your community's plans are for evacuating those who cannot drive themselves.

- Community organizations in your area, including community block associations, neighborhood watch, faith-based organizations, and CERT (Community Emergency Response Team). You may be able to register in advance through one of these organizations for assistance during a community emergency.
- Your retirement or assisted living community. If you live in a retirement or assisted living community, find out if there are currently emergency alert and survival plans in place. Now is the time to find out what to expect and what more needs to be done. Talk to your community management or resident council about how you can all work together to support each other and become better prepared for any disaster that might come your way.

Know Your Contact Numbers

Once you've established who can help you (and how) during a disaster, be sure to post pertinent emergency numbers by your phone in large, easy-to-read font. It's important to include contact information for family members and caregivers on this list. While you may know these numbers by heart, during an emergency it's easy to become rattled and forget. Also, keep in mind that someone other than yourself may need to access these emergency numbers and may not have them memorized the way you do.

You should also keep your emergency numbers in your wallet or purse so that they're available to you if you need them while you're away from home.

Remember that in some emergencies phone lines may not be working. Plan ahead! Do you have a cell phone, or another way to contact those on your support team? Do your family members, friends, caregivers, or others who are planning to assist you have cell phones or other means by which to get in touch with you if phone lines are down?

Finally, it's important to have an out-of-town contact that you can touch base with in the event of a disaster. During and following a disaster, it is often easier to make a long-distance call than a local call from a disaster area. Establish who this contact will be now and make sure that person is willing to play a role in your survival plan.

Practice Makes Permanent

Once you've got your disaster survival plan hammered out, it's time to put it to the test! Practicing what you would do during an emergency, and following your step-by-step preparations will give you the opportunity to resolve any potential problems and fill in any holes in your plan. It's a good idea to review your disaster survival plan with your family (and others who will be assisting you during an emergency) every six months and conduct practice evacuation drills.

After each drill, take a few moments to evaluate its success with the members of your disaster survival support team. Was there anything that could have gone more smoothly? Was everyone comfortable in their role and confident of what was expected of them? Was communication easy and efficient? Did you have all the supplies you needed? Were they easy to locate?

Answering these questions now will ensure that the necessary systems and supplies are in place, and that everyone knows what to do in the event of a real emergency.

Tips For Family Of Seniors

If you are the child, grandchild, or caregiver of an older adult, you can take an active role in helping your loved one prepare to survive any disaster they might face. Besides helping the senior in your family to make, practice, and carry out a disaster survival plan, there are several physical, concrete steps you can take to help protect and prepare your loved one. Consider helping the older adult in your life with the following:

- **Utilities** In the event of a disaster, it may become necessary to turn off certain utilities, such as water, gas, and electricity at the main switches or valves. Does your loved one (or the person caring for them) know how to turn these utilities off if need be? Show them how, or if you don't know, contact the utility company to learn these emergency procedures. Locate the appropriate tools and keep them handy. Instruct the older adult in your life to turn off their utilities only if there is a possibility that the lines are damaged or there is a leak, or if local officials instruct residents to do so. Make sure they know that if gas is turned off for any reason, it can only be turned back on by a qualified professional, which, during a disaster, could take several weeks. Be sure your parent or grandparent has an alternate source of heat and food preparation.
- **Insurance** Does your parent or grandparent have adequate coverage in the event of a disaster? Note that homeowner's insurance usually does not cover flood damage and may not fully cover damage from other disasters. Talk with your loved one about their insurance coverage and encourage them to contact

their insurance agent for clarification, or call the insurance agent yourself, if your parent or grandparent requests your help.

- **Smoke alarms and carbon monoxide detectors** Make sure these devices in your parent or grandparent's home are up- to-date and in good working order. (Test each smoke alarm by using a broom handle to push the test button to ensure it's working). Help your loved one replace the batteries in all alarms in the home at least once a year (or as directed by the manufacturer). If your parent or grandparent has suffered hearing loss, consider helping them install a strobe alarm system that relies on light to indicate the presence of danger.
- **An escape plan** Even young children can help with this project! Work together to draw a floor plan of your loved one's home, showing at least two exits out of each room that can be used in the case of an emergency.
- **A safe room** Help your parent or grandparent make a safe room in their home that they can shelter in if need be during a disaster such as a hurricane or tornado.
- **Disaster survival supplies** Make sure your loved one has everything they'll need to get through a disaster safely and comfortably. Talk to your parent or grandparent about what supplies they'll need and help them assemble a kit full of these necessities. (Not sure what to include? Keep reading for a list of essential items!)

Survival Supplies--Start Today

Preparing to survive a disaster means not just having a plan of what to do, but also having the supplies you'll need to get through an emergency situation. Lying in extra stores of necessities in your home to use during a disaster is essential. However, as you know, in some emergency situations, you'll need to evacuate your home. That's why it's so important to put together a survival kit, or what some people term a "bail out" or "bug out" bag. By putting this kit together now, you'll have all your essential disaster supplies in one place and be able to quickly grab everything you'll need should you be forced to evacuate.

Tips to Keep in Mind

- Store your supplies in an easy-to- carry container or bag, such as a backpack or duffle bag. If your bag becomes too heavy or too full, start a second bag.

- No matter how many bags you fill, make sure you store them all in the same easily accessible place. This will save you precious time in the event of a disaster.
Make sure each bag has an ID tag with your name, address, and phone number on it. It is also good practice to label essential support items, such as canes, walkers, wheelchairs, etc, with the same information.
- Consider storing your supplies in a wheeled bag or container to make it easier to transport them.
- Your grab-and-go survival kit should contain a minimum of three days' worth of supplies.
- If you need help gathering essential items and packing your kit, ask a trusted friend, caregiver, or family member to assist you.
- Don't forget that this isn't a "one time and it's done" undertaking. You'll need to go through your survival kit every six months to ensure that it's up to date. During these reviews, check expiration dates and shift your stored supplies into everyday use before they expire. Replace food, water, batteries, medications, and other perishable items with "first in/first out" practices. Also, you'll need to check to be sure that your kit continues to meet your ongoing needs. Perhaps you've started on a new medication since you first packed your kit. Make sure that your kit reflects any changes to your lifestyle by adding new medications, medical equipment, or other essential items as needed. Again, if you need help with this task, ask those who love or care for you. They'll likely be glad to lend a hand!

Cold Climate Supplies

It is important to keep in mind that during many disaster situations, you will not have access to electric heat. Finding alternative ways to stay warm and keep your body temperature where it should be is of paramount importance. If you live in a cold climate (or a warm climate where it cools off at night), you should include the following in your disaster survival kit:

- A warm coat
- Long pants/long sleeve shirt
- Warm socks and sturdy shoes
- Hat, mittens, and scarf

- Warm blanket and/or sleeping bag

Notification During A Disaster

Making a disaster survival plan and assembling a survival kit are two very important steps in preparing yourself for living through an emergency situation. Another important component to being prepared is to know how you will be notified in the event of a disaster within your community. Remember that knowledge is power! The sooner you are aware of a disaster, the sooner you can make important decisions and take necessary steps to protect yourself. Some ways you might be notified of a disaster in your area are:

- Your local Emergency Alert System (EAS). This system broadcasts emergency messages from local officials on certain radio and television channels. Take the time today to find out which stations broadcast on the Emergency Alert System so you know where to tune in for important information during a disaster.
- Special sirens or a telephone call. Both these methods are used in various communities to alert residents of danger. Find out what you can expect in your area. If your community uses sirens to signal an emergency, learn what kind of emergency each siren indicates. If you are hearing impaired, find out what alternative methods of emergency notification are available to you.
- Door-to-door warning from local emergency officials. In some cases, local responders may go door-to-door to provide the public with important emergency information. Be sure to listen carefully to what they say and follow any instructions they give you.
- NOAA Weather Radio/All-Hazard Alert Radio. These are special radios that provide one of the earliest warnings of dangerous weather and other emergencies. They can be programmed to alert you to hazards in your specific area. You can learn more about using these radios by calling your local National Weather Service Office or by visiting www.nws.noaa.gov.

Do You Need To Evacuate?

As we've discussed, in some disasters, you'll be able to "weather the storm" in your own home. However, in other instances, it may be unsafe for you to remain in your home. Deciding whether to leave your home can be difficult and frightening. While each disaster and person's individual circumstances are different, in general, you should prepare to evacuate if:

- Your home is severely damaged during a disaster
- Floodwater is rising in your area
- Police or other officials tell you to evacuate
- You are without power for a long period of time

Remember that while leaving your home may be scary, it can be far more dangerous to remain in it if conditions are unsafe. This is why you've made a disaster survival plan and practiced carrying it out. If you need to evacuate during a disaster, remind yourself that you are prepared and follow the steps of your disaster survival plan, as well as instructions from local officials.

Scammers Target The Elderly

Unfortunately, opportunists who try to prey upon your vulnerability and gain access to your money are often a side effect of disaster situations. Keep in mind that these scam artists often specifically target senior citizens. The good news is that you don't have to fall victim to financial exploitation! Follow these simple steps to keep yourself safe:

- Never disclose sensitive personal financial information, such as bank account numbers and credit card information, over the phone, by e-mail, or to anyone you don't know. Legitimate representatives from your bank, or other financial institutions, won't ask you to divulge information in this manner.
- Beware of high-pressure sales, or deals that sound "fishy" or "too good to be true." Trust your instincts! Hang up on any caller who is pressuring you to give money or information you don't want to, or who makes you feel uncomfortable in any way.
- If you are the adult child or grandchild of a senior, talk with your loved one about safeguarding their financial information. Remind them that scam artists are conniving and may try many different means of tugging at their heartstrings or pressuring them into divulging personal information. Make sure your parent or grandparent understands that legitimate bank or credit card representatives will not ask for sensitive account information via phone or e-mail.
- For more information about specific scams and how you can avoid them, visit www.ftc.gov.

Three Simple Steps To Survival

You've just read a lot of information about disasters and how you can be prepared for them. Sometimes, preparing for a disaster can seem overwhelming. It can feel like you have a never-ending checklist of things you need to find or accomplish before you're completely prepared. If you're feeling stressed, frightened, or over-taxed by the idea of getting ready for a disaster, stop and take a deep breath. Relax. While you've just taken in a lot of detailed information that will hopefully help you in your particular situation, keep in mind that preparing for a disaster is, at its core, quite simple, and that all the things you need to remember basically boil down to these three easy steps:

1. Make a plan and practice it regularly.
2. Pack a kit and keep it up to date.
3. Ask for help when you need it. Offer help when you can.

By doing those three easy things, you can drastically increase your odds of surviving any disaster as safely and comfortably as possible. Remember the group of older adults you read about at the start of this guide who suffered through a two-week power outage? "If only we had taken a few simple steps to prepare ourselves for such an event, we could have eliminated many of the hardships we had to endure," they wrote after their ordeal. Don't let their story be your story. Learn from their mistakes! By preparing today, you can ensure your safety, comfort, and wellbeing during the disaster that may come tomorrow.